
Workbook 11: Using the Payload Information Management System (PIMS)

HOSC Training Division

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Workbook 11:

Using the Payload Information Management System (PIMS)

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Prepared by:
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Prepared for:
Mission Systems Operations Group
Ground Systems Department
Flight Projects Directorate
Marshall Space Flight Center



Welcome

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Workbook Overview

The majority of the workbooks are designed to be self-paced requiring very little assistance from an instructor. The following table lists the workbooks and their associated course number:

Workbook Numbering System

Workbook Number	Title	Associated Course
Workbook 1	HOSC End-User Software Training	HOSC-1000 HOSC-1010 HOSC-1020 HOSC-1030
Workbook 2	Using the Databases	HOSC-2050
Workbook 3	Using the Exception Monitor Application	HOSC-2060
Workbook 4	Using the Display Generation and Operation Applications	HOSC-2070
Workbook 5	Using the Computation Generation and Operation Applications	HOSC-2080
Workbook 6	Using the Scripting Applications	HOSC-2090
Workbook 7	Using the NRT Data Request Applications	HOSC-2100

Workbook Numbering System (Continued)

Workbook Number	Title	Associated Course
Workbook 8	Using Applix	HOSC-2110
Workbook 9	Using FrameMaker	HOSC-2130
Workbook 10	Using Electronic Mail	HOSC-2140
Workbook 11	Using the Payload Information Management System (PIMS)	HOSC-2150 HOSC-2160
Workbook 12	Using the Pixmap Editor	HOSC-2170
Workbook 13	Using the Ground Support Equipment Packets Application	HOSC-2180
Workbook 15	Using the End-User Command Applications	HOSC-2120
Workbook 22	Workstation Overview and General Purpose Utilities Training	HOSC-1040
Privileged Applications		
Workbook 16	Using the Privileges within the Database Applications	HOSC-3000
Workbook 17	Using the Command System Management Application	HOSC-3010
Workbook 18	Using the User Configuration Management Application	HOSC-3020
Workbook 19	Using the System Monitor and Control Applications	HOSC-3030 HOSC-3040
Workbook 20	Using the Data Packet Generator Application	HOSC-3050
Workbook 21	Using the Database Monitor and Control Application	HOSC-3060

This workbook covers course:

HOSC-2150 - Using the Payload Information Management System (PIMS)

This course will provide the trainee with the information necessary to operate the To Do List, Documents, and Operations Change Request (OCR) applications within PIMS.

Workbook Layout

The workbooks include a welcome section that details how the document is divided into modules as well as what is contained within each module. The modules include a discussion of the main topic of the module and instructor coordinated exercises with the software. Due to the interaction between the Payload Information Management System (PIMS) individual applications and the complexity of the configuration management workflows, students will assume operational roles with which they can function within the workflows and exercise the software in a coordinated manner that will provide an understanding of not only the individual applications but PIMS as a whole.

This particular application is provided to assist you the user, in accessing and manipulating (PIMS). This course will provide a thorough introduction to the purpose and structure of the software and will set you on a path toward understanding the applications and mastering the manipulation of them.

This workbook and the accompanying course is divided into four modules. The first module discusses basic definitions and concepts concerning the Configuration Management (CM) software applications that comprise PIMS. The next three modules discuss, in depth, the To Do List, Documents, and OCR applications within PIMS. The four modules include:

Module 1: *Definitions and Concepts*

Module 2: *To Do List*

Module 3: *Documents*

Module 4: *OCRs*

Given the extensive technical requirements, extreme effort has been taken to make the software as intuitive and user-friendly as possible. Hopefully, your experience with the software will be rewarding, and you'll find it satisfies your individual needs.

Contents

Section	Page
Welcome.....	i
Training Contacts	ii
Workbook Overview.....	ii
Workbook Layout.....	iv
Module 1	
Definitions and Concepts.....	1-1
Objectives	1-1
Definitions	1-1
Payload Information Management System.....	1-1
PIMS Configuration Management	1-2
Document Configuration Management	1-2
Change Request Configuration Management.....	1-2
To Do List.....	1-3
Stateless Document.....	1-3
Register	1-3
Check Out	1-3
Check In	1-3
Retrieve.....	1-3
Documents	1-4
DCM Process Flow	1-4
Development.....	1-4
Review	1-4
Baseline.....	1-4
Document Approver	1-5
Document Manager.....	1-5
Document Writer	1-5
Document Reviewer	1-5
Transfer Ready Automated Procedures	1-5
Uplinkable Automated Procedures	1-5
CRCM Process Flow	1-6
Development.....	1-6
Submitted	1-7
Review	1-7
Approved	1-7
Closed Out	1-7
Operations Change Request	1-7
Replanning Request	1-8

Section	Page
Action Request.	1-8
Engineering Change Request.	1-8
Review Item Discrepancy	1-8
Overview	1-9
PCM User Information	1-9
PCM Status Update	1-10
Summary	1-11
 Module 2	
To Do List	2-1
Objectives	2-1
To Do List Concept	2-1
PIMS To Do List	2-3
Complete Task Dialog Box	2-5
OCR Tab	2-7
CM Log Tab.	2-7
Resource Impacts Tab	2-8
Reviewers Tab	2-8
Control Panel	2-8
Summary	2-10
 Module 3	
Documents	3-1
Objectives	3-1
Documents Concept.	3-1
PIMS Documents.	3-5
Documents Menu Options	3-6
New	3-7
Document.	3-7
Folder...	3-13
Copy...	3-14
Select MOP Dialog Box	3-15
Move...	3-16
View.	3-17
Delete...	3-17
Retrieve Copy...	3-18
Privileged Options Menu.	3-20
Transfer File(s) To HOSC Drop Box....	3-20
Delete File(s) From HOSC Drop Box...	3-21
Summary	3-23

Section	Page
Module 4	
Operations Change Request (OCR)	4-1
Objectives	4-1
Operations Change Requests Concept	4-1
PIMS Operation Change Request (OCR).....	4-4
New OCR.....	4-8
Common Elements	4-9
OCR Tab	4-10
CM Log Tab	4-11
Resource Impacts Tab	4-13
Reviewers Tab	4-15
View.....	4-16
Common Elements	4-16
OCR Tab	4-17
CM Log Tab	4-18
Resource Impacts Tab	4-19
Reviewers Tab	4-21
Summary	4-23
Appendix A	
PIMS Account Privileges	A-1
Appendix B	
Folder and Document Types	B-1
Appendix C	
Workflow Diagrams	C-1
Appendix D	
Abbreviations and Acronym List	D-1
Appendix E	
Glossary	E-1

List of Figures

Figure	Page
Figure 1-1, PIMS software applications	1-2
Figure 1-2, PIMS/Web architecture	1-9
Figure 1-3, Sample 3-tier architecture	1-10
Figure 2-1, To Do List concept	2-2
Figure 2-2, (PIMS) To Do List main window	2-3
Figure 2-3, (PIMS) Complete Task dialog box	2-6
Figure 3-4, Control panel comparison	2-9
Figure 3-1, Documents concept	3-4
Figure 3-2, Documents main window	3-5
Figure 3-3, Selected menu options	3-7
Figure 3-4, New cascade menu.	3-7
Figure 3-5, New document dialog box	3-8
Figure 3-6, (PIMS) Add File dialog box	3-9
Figure 3-7, (PIMS) Add File dialog box - Register Only.	3-10
Figure 3-8, (PIMS) Create FTP Connection dialog box.	3-11
Figure 3-9, (PIMS) Edit Document File dialog box.	3-12
Figure 3-10, (PIMS) Register New Document dialog box.	3-12
Figure 3-11, (PIMS) New Folder dialog box	3-13
Figure 3-12, (PIMS) Copy dialog box	3-14
Figure 3-13, (PIMS) Select MOP dialog box	3-15
Figure 3-14, (PIMS) Move dialog box	3-16
Figure 3-15, Delete Confirmation Message	3-18
Figure 3-16, (PIMS) Retrieve Copy of File dialog box	3-19
Figure 3-17, (PIMS) Transfer File(s) To HOSC Drop Box dialog box	3-20
Figure 3-18, (PIMS) Delete File(s) From HOSC Drop Box dialog box	3-21
Figure 4-1, Sample 3-tier architecture	4-1
Figure 4-2, OCR concept	4-3
Figure 4-3, (PIMS) Operations Change Request main window	4-4
Figure 4-4, (PIMS) Select Originator(s) dialog box.	4-5
Figure 4-5, (PIMS) New OCR dialog box	4-9
Figure 4-6, CM Log tab	4-12
Figure 4-7, Resource Impacts tab	4-13
Figure 4-8, Reviewers tab.	4-15
Figure 4-9, (PIMS) View OCR dialog box.	4-16
Figure 4-10, CM Log tab	4-18
Figure 4-11, Resource Impacts tab.	4-19
Figure 4-12, Reviewers tab.	4-21
Figure C-1, Document management workflow diagram.	C-1
Figure C-2, OCR workflow diagram.	C-2

List of Tables

Table	Page
Workbook Numbering System	ii
DCM Process Flow Definition	1-4
CRCM Process Flow Definition	1-6
Document Folder with Document Class	3-2
OCR Icons	4-7
PIMS Account Privileges	A-1
Folder Types	B-1
Icons	B-3
PIMS messaging matrix for message handler/e-mail	C-3
To Do List task/state values	C-4

Module 1

Definitions and Concepts

Objectives

In order to work within the various applications that comprise the Payload Information Management System (PIMS), a fundamental understanding of terms, definitions, and concepts is necessary. Information presented in this initial module is intrinsic to your understanding of the PIMS applications as it presents the framework around which PIMS is built. In this module you will learn:

- the terms and definitions peculiar to PIMS
- what applications comprise PIMS
- the operational concepts of the individual PIMS software applications

Definitions

Payload Information Management System

PIMS is a multiproject electronic information management system used by the Payload User, Payload Operations Integration Center (POIC) Cadre, and Mission Managers for mission preparation and execution. The primary purpose of PIMS is to provide centralized payload operations information management for controlling changes to payload experiments and spacecraft support for the International Space Station (ISS).

The PIMS applications are grouped into four computer software configuration items (see Figure 1-1, PIMS software applications) that are integrated through the PIMS database:

- PIMS Configuration Management (PCM)
- Document Configuration Management (DCM)
- Change Request Configuration Management (CRCM)

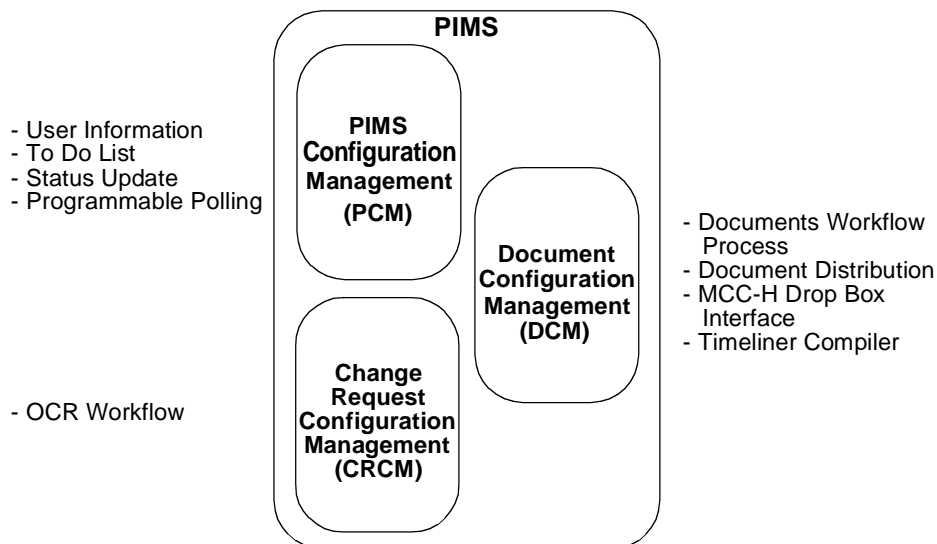


Figure 1-1, PIMS software applications

PIMS Configuration Management

The PIMS Configuration Management (PCM) system is composed of software applications that satisfy the requirements for user information, a PIMS bulletin board, status updating, reconfiguration notification, e-mail for automatic messaging, and communications between PIMS and Payload Data System Services (PDSS). PCM is responsible for the interprocess communications between PIMS users to facilitate status updating, commander notification and communication between PIMS users and PDSS.

Document Configuration Management

The Document Configuration Management (DCM) software provides database access control applied to documents stored within the PIMS vault. These applications integrate approval process roles of actionees who are responsible for document production, review, approval, and distribution. The DCM capability provides for the configuration management of compound documents such as automated procedures and their associated TimeLiner files as well as manual crew procedures and their associated change messages. Configuration management is also provided for text and/or graphics documents used for planning such as data management checklists and console documents, mission schedules, and spreadsheets.

Change Request Configuration Management

The Change Request Configuration Management (CRCM) software provides database access control applied to change requests submitted to manage requests for changes to payload operations and to documentation. These applications integrate approval process roles of actionees who are responsible for change approval and implementation.

Note: The following terms are applicable to PCM.

To Do List

The To Do List application provides you with a dynamic list of workflow related actions that must be performed within a specific Mission, Operational support mode, and Project (MOP). The To Do List has a priority indicator and required by date as part of the action item so that you can see at a glance what needs to get done and by when.

Stateless Document

A stateless document refers to a document maintained in the PIMS database that has not been baselined through the DCM workflow process. Only the owner of a stateless document may check out a document for editing and check it back in with modifications. All other users can only view the document.

Register

The act of registering a document (folder/file) involves the creation of a placeholder within the PIMS Database. The document does not have to contain any component files. The purpose of registering a document is to have a location for the document in the PIMS database established before the document is actually handled by the PIMS database. Registration guarantees uniqueness of the document and the associated content files for the subsequent check-out and check-in by the owner of the document. When a document is registered, it is not displayed in the Documents application, rather, it appears as a task on the document owners To Do List.

Check Out

When a PIMS document is checked out, it is moved from the PIMS database to the users workstation and marked as being checked out. Only the owner of stateless document may check out a document for editing.

Check In

When a PIMS document is checked in, a previously checked out document is placed back into the PIMS database. The process of checking in a file to the PIMS database replaces the old version with the new version, increments the version number of the file, and marks the file as being checked in.

Retrieve

The Retrieve function provides the capability to retrieve a copy of a file from the PIMS database to your workstation without marking the copy as being checked out. The file can be viewed, edited and used to replace a file in the PIMS database.

Note: The following terms are applicable to DCM.

Documents

The Documents application has the capability to access folders and their component files from the PIMS database. The application also allows you to manage the configuration of books by applying a book management process which permits you to identify a book approver, a book manager, writers, and book reviewers.

DCM Process Flow

Some of the information contained in the PIMS database mission tables pertain to the DCM Process Flow applied to a document. The DCM Process Flow definition contains static Process Flow State definitions. The DCM Process Flow States are Development, Review, and Baseline. Each Process State has predefined actions that may occur within it. The following table defines the DCM Process Flow definition.

Table 1-1, DCM Process Flow Definition

State	Actionee Privilege	Action	Next
Development	Document Manager	Submit for Review	Review
Review	Document Approver	Approve	Baseline
Review	Document Approver	Disapprove	Development
Baseline	Document Approver	Release for Revision	Development

Help: See “Appendix C, Workflow Diagrams,” “Figure C-1, Document management workflow diagram,” for an overview of the DCM workflow.

Development

Development is the first state of the review cycle in which a document, change request, or data request is still being written or is being updated.

Review

Review is the second state of the review cycle in which the document, change request, or data request has been written and submitted for review and approval.

Baseline

Baseline is the final state of the review cycle. When a document, change request, or data request has been approved by all reviewers, the approver may place it in the baselined state.

Document Approver

The document approver must assign a document manager before configuration management of the document can take place. The document approver is responsible for approving a document for baselining, disapproving a document under review, and releasing a baselined document back into development.

Document Manager

The document manager can assign an individual writer to each document component within a document. The document manager is also responsible for ensuring that all components are ready for review before he or she submits for review.

Document Writer

Document writers are authorized to modify a document component file. Only one writer can be assigned to each component.

Document Reviewer

Document reviewers are authorized to edit and analyze a document under review and provide feedback to the document approver via comments and changes entered into the appropriate component file. These comments and changes do not modify the original document. Reviewers may be assigned by either the document manager or approver.

Transfer Ready Automated Procedures

Transfer Ready automated procedures are available for retrieval and submission to Mission Control Center-Houston (MCC-H) for subsequent uplink to ISS via the commanding subsystem. Automated procedures are considered Transfer Ready if all of the following are true:

- The automated procedure is in the baselined state.
- The automated procedure is successfully compiled with uplinkable or onboard compiler options.
- The automated procedure is valid against the current baselined versions of the Telemetry Database (TDB) and Command Database (CDB).

Uplinkable Automated Procedures

An automated procedure is considered uplinkable if it has been transferred to MCC-H and is awaiting an uplink command.

Note: The following terms are applicable to CRCM

CRCM Process Flow

CRCM supplies a default process flow for all change requests. All change request states and all actions within the states for the default process flow are predefined and may not be modified during a mission. The reviewer(s) must be assigned by the CRCM approver before a change request is approved while the actionee(s) must be assigned by the approver before the change request is implemented. The CRCM process flow consists of the development, submitted, review, approved, implemented, disapproved, withdrawn, and cancelled states. The following table defines the CRCM process flow definition.

Table 1-2, CRCM Process Flow Definition

State	Actionee Privilege	Action	Next State
Development	Initiator (any user) Initiator (any user)	Submit Withdraw	Submitted Withdrawn
Submitted	Approver Approver Approver Approver	Release Approve Disapprove Putback	Review Approved Disapproved Development
Review	Reviewer(s) Reviewer(s) Approver Approver Approver	Approve Disapprove Approve Disapprove Putback	No change No Change Approved Disapproved Development
Approved	Actionee Approver Approver Approver	Implement Implement Disapprove Putback	Closed out Closed out Disapproved Development

Help: See “Appendix C Workflow Diagrams,” “Figure C-2, OCR workflow diagram” for an overview of the CRCM workflow.

The CRCM approver may assign reviewers to assess the change request for technical concurrence. He may choose to accept or reject recommendations from the reviewers. Next, the approver takes the appropriate actions to process the change request by assigning actionees to implement the approved request. The approver, reviewers, and actionees are identified by EHS user ID within the process flow state.

Development

The development state consists of a user or initiator requesting and providing the rationale for a change in procedure to any mode. When an initiator is satisfied with the change, the change request is made

available for review by an approving position(s). The action to change a change request from the development state to the submitted state is called submit. If the initiator wishes to prohibit the change request from further processing, the change request may be withdrawn.

Submitted

Once in the submitted state, an approver may approve the change request. The approver may assign an actionee (EHS user ID) to implement the change request. When the change request is approved, the approver must assign an actionee, and the change request goes to the approved state.

The approver may also release the change request to review. The release makes the change request available to reviewing positions (reviewers) for their recommendation. Other approver actions include disapprove (no further processing) and putback which places the change request back into the development state.

Review

Each reviewer may make his recommendation but the change request does not undergo a state change. Once in the review state, an approver may approve the change request. The approver may assign an actionee (EHS user ID) to implement the change request. When the change request is approved, the approver must assign an actionee and the change request goes to the approved state. Other approver actions include disapprove (no further processing) and putback which places the change request back into the development state.

Approved

When the actionee implements the change request, the change request goes to the implemented state where it is in its closed out state.

Closed Out

When no further processing is possible, the change request is considered in the closed out state. A change request will reach this state if the change request has been implemented, disapproved, withdrawn, or implemented.

Operations Change Request

The Operations Change Request (OCR) is used to get approval for and process realtime changes to payload experiments and their respective documents during current operational ground crew shift periods.

The OCR change request consists of a change category (standard or follow-up), description, time (desired, earliest, and latest), technical rationale, resource impact, resource impact listing, and cadre notes. Any OCR which was created earlier may be copied into a new OCR as it is being created.

Replanning Request

The Replanning Request (RR) is used to get approval for and process changes to payload experiments and their respective documents during upcoming operational ground crew shift periods.

The RR change request consists of a description, time (desired, earliest, and latest), resource impact icons, resource impact listing, cadre notes, and initiator notes. Any RR which was created earlier may be copied into a new RR as it is being created.

Action Request

The Action Request (AR) is used to obtain approval for system engineering support in determining and fixing onboard or ground crew problems during a mission.

The AR change request consists of a request area (problem definition), response area (problem resolution), approver comments, and a list of reference ARs (ARs that are similar). Any AR which was created earlier may be copied into a new AR as it is being created.

Engineering Change Request

The Engineering Change Request (ECR) is used to get approval for and process pre-mission changes to payload experiments and their respective documents. An ECR allows any user to request changes to a baseline document, hardware system, software system, facility, requirement document, schedule, cost, or any other mission related item.

The ECR change request consists of the project affected, end items affected, baseline documents affected, related changes, system affected, justification, change description, and additional comments.

Review Item Discrepancy

A Review Item Discrepancy (RID) allows any user to identify discrepancies in concept or design.

The RID change request consists of a description, justification, suggested disposition, and developer's comments.

Overview

PIMS is a multiproject electronic information management system used by the payload user, POIC cadre, and mission managers for ISS mission preparation and execution. The primary purpose of PIMS is to provide centralized payload operations information management for controlling changes to payload experiments, and spacecraft support for ISS. Real-time mission operations, simulations, and short term planning cycles are supported simultaneously by PIMS. PIMS also provides a pre-mission functionality in support of mission document preparation and configuration management (CM).

PIMS software also includes a utility for developing approval process flows for a work group that can be applied to an object under CM. All PIMS applications are Web-based, share a common database vault, and interface to routines that provide real-time status messaging to actionees with CM responsibilities (see Figure 1-2, PIMS/Web architecture).

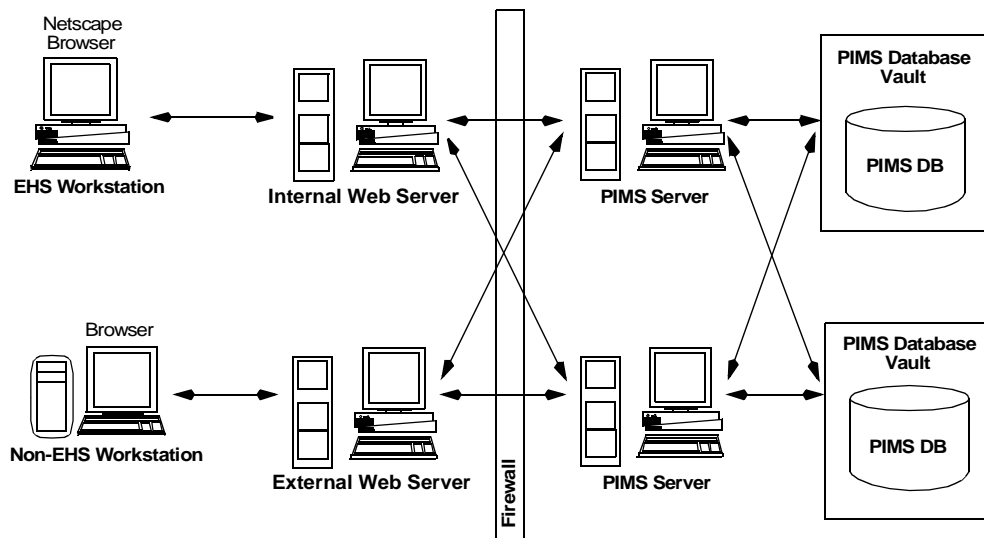


Figure 1-2, PIMS/Web architecture

PCM User Information

Users of EHS can have individual or shared group accounts required to support a mission and its payload experiments (see “Appendix A PIMS Account Privileges,” Table A-1, PIMS Account Privileges). Each EHS account will have associated user profile information that will contain privileges associated with user interface configurables and capabilities. The ISS has special user configuration requirements related to the complexity of the ISS 3-tier workflow and its internal construction (see Figure 1-3, Sample 3-tier architecture). Information not found on the user profile account will be provided by a privileged end user for relating the experiments to facilities. It is necessary to know which lead approver user IDs map to which facilities and to know which experiments and the associated experimenters’ user IDs map to which facilities (if any) for the OCR workflow to function properly. The PCM User Information application displays information about the user ID and any PIMS related EHS user profile privileges associated with the user ID.

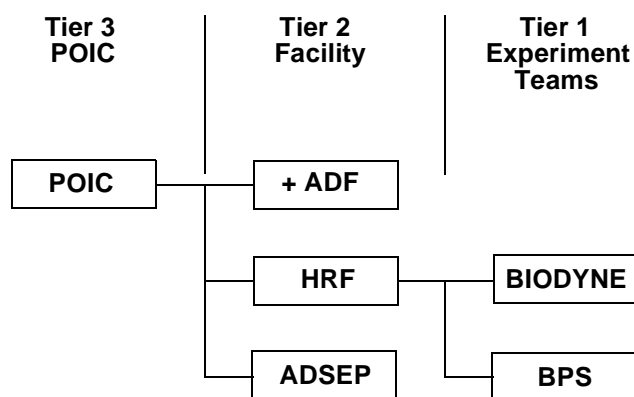


Figure 1-3, Sample 3-tier architecture

Help: See “Appendix C Workflow Diagrams”, “Figure C-2, OCR workflow diagram” for an overview of the CRCM workflow.

PCM Status Update

The PCM Status Update library process uses the Telemetry Network Services (TNS) for local HOSC EHS workstation-to-workstation messaging. The PCM Status Update process calls the Network Services library utilities to successfully send and receive multicast protocol and connection oriented protocol messages. Also, the EHS Send Mail library utilities are called for local and remote user notifications. Workflow related information is routed to users based on information contained in the workflow notification matrix.

Help: See “Appendix C Workflow Diagrams,” “Table C-1, PIMS messaging matrix for message handler/e-mail” for further information concerning the workflow notification matrix.

Summary

This module has laid the groundwork for an understanding of PIMS beginning with a definition of the individual applications that comprise PIMS, their process flows, process states, and process roles. We briefly overviewed the PIMS architecture providing the relationships between workstations, web servers, PIMS servers, and the PIMS Database. We concluded with a discussion of PCM User Information, 3-tier architecture, and status update communications within PIMS.

With the conclusion of this module you should be able to:

- define the terms and definitions pertinent to the PIMS.
- define the individual applications that comprise PIMS
- demonstrate relationships within the basic PIMS architecture

Module 2

To Do List

Objectives

As previously defined, the To Do List application provides you with a dynamic list of workflow related actions that must be performed within a specific Mission, Operational support mode, and Project (MOP). In this module you will learn:

- the To Do List concept
- **To Do List** main window nomenclature
- Document configuration management (DCM) workflow
- **Complete Task** dialog box nomenclature

To Do List Concept

The PIMS Configuration Management (PCM) **To Do List** Applet is a Web-based, distributed architecture, user interface allowing consistent operations to users at the HOSC and remote locations (see Figure 2-1, To Do List concept). The To Do List provides MOP-dependent accessibility to tasks related to Document Configuration Management (DCM) and Change Request Configuration Management (CRCM) workflow processes.

The web server provides workflow and status information to the user's workstation acting as the connection between the workstation and the Payload Information System (PIMS) vault. Requests for data are put into a format that the Orion[®] commercial off the shelf (COTS) product (PIMS database interface) can interpret. The Orion software then interacts with the PIMS database tables for storing and retrieving To Do List workflow data. The web server also sends notification messages to the users when changes are detected in the data within the PIMS vault.

The DCM workflow process executes each time an authorized user selects to start a configuration management workflow on a document. Once a document enters the DCM workflow process, it will remain on the To Do List of the initial user assigned by the workflow until that user has taken an action to change the state of the document. When the document has undergone a change of state, the document is removed from the To Do List of the initial user and will be added to the To Do List of the next user required to process the document.

Help: See "Appendix C: Workflow Diagrams," "Table C-2, To Do List task/state values" for a list of workflow tasks/states and their available actions .

Similarly, the CRCM OCR Workflow process executes each time a user creates a new OCR. Once an OCR enters the CRCM Workflow process, it will remain on the To Do List of the originator until that user has taken an action to change the state of the OCR. When the OCR has undergone a change of state, the OCR is removed from the To Do List of the originator and will be added to the To Do List of an approver required to process the OCR.

The PCM Status Update process provides a capability for the DCM and CRCM OCR workflow processes to send messages about changes to the status of a document or OCR as it progresses through the workflow process. Notification messages are sent to all workflow User IDs through the Message Handler application for local EHS users and through e-mail to all users (local and remote).

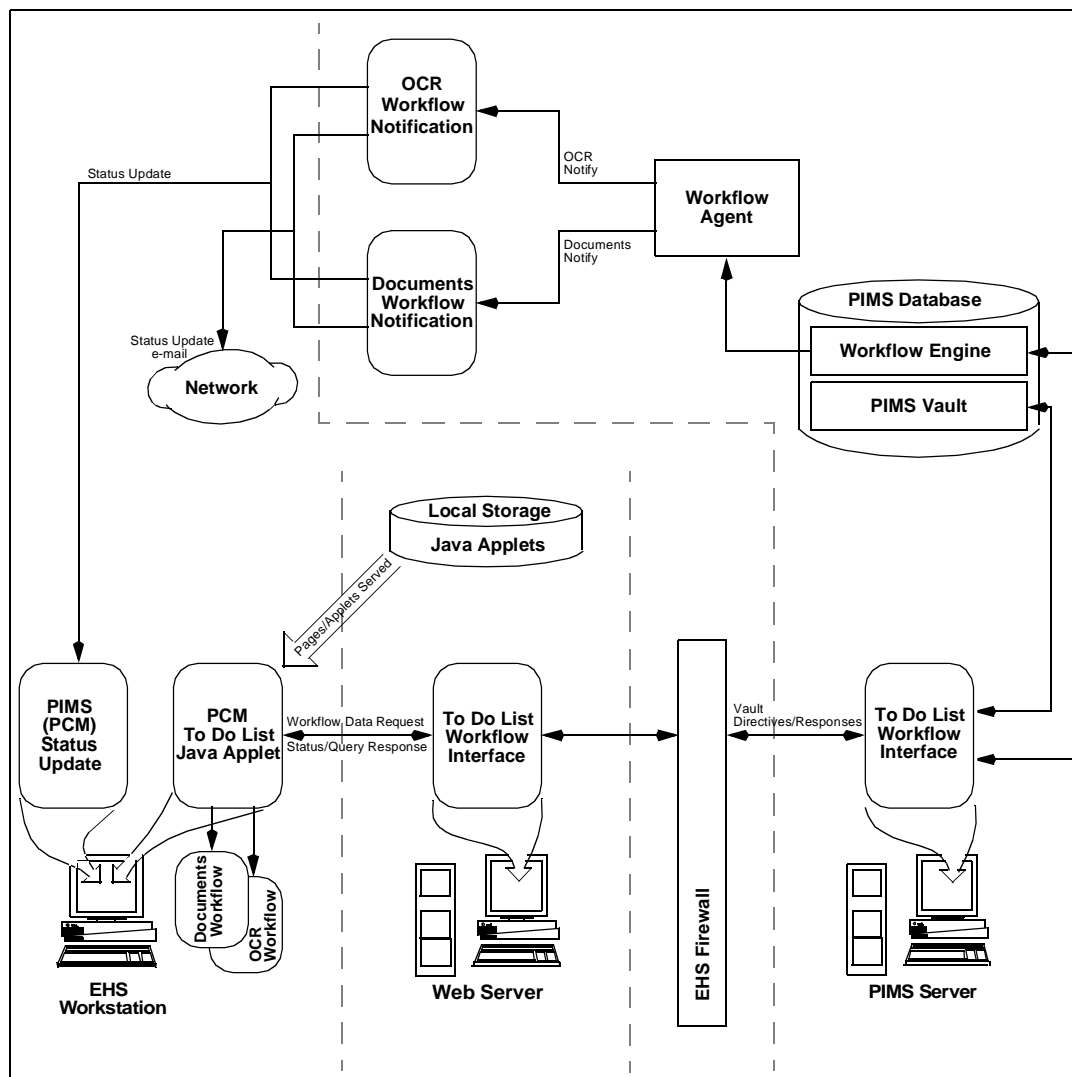


Figure 2-1, To Do List concept

PIMS To Do List

Selecting the **To Do List** menu item from the **PIMS** menu of the Launchpad invokes the **(PIMS) To Do List** main window (see Figure 2-2, (PIMS) To Do List main window). The To Do List enables individual PIMS users to determine which OCR or document requires an action by the user, the due date for the action, and document properties for the selected task.

Help: All To Do List assignments are derived from the Document Workflow Diagram and from the OCR Workflow Diagram, see “Appendix C: Workflow Diagrams,” Document Management Workflow Diagram and OCR Workflow Diagram.

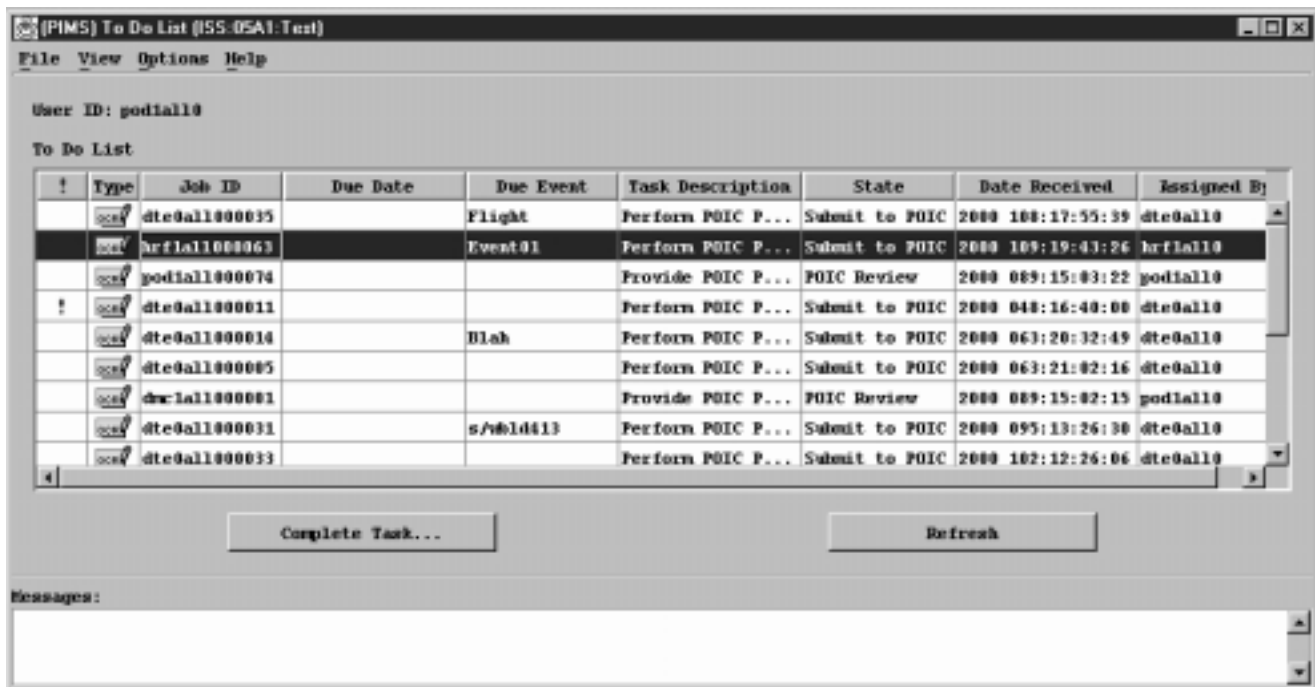


Figure 2-2, (PIMS) To Do List main window

The work area of the To Do List main window contains a display-only **User ID:** field, and the tabular **To Do List**.

The **To Do List** table appears blank until a task is assigned to the user. Once the table is populated it is updated by clicking the **Refresh** button to reflect current data. Only one row of the table may be selected at a time; selection of any item in the row selects the entire row. Double clicking on a selected row invokes a Complete Task dialog box.

Help: The **Complete Task** dialog box will be discussed in the following section of this module.

By default the table is sorted by type, however, clicking once on any column heading sorts the column in ascending order. Click the same column heading again and the entire column is sorted in descending

order. Individual table columns may be resized by placing the cursor in the boundary between column headings to obtain a resizing tool (→|). Movement to the left or right, decreases or increases the width of the column.

The **User ID:** field is configured to the user's login user ID, and will be used within the PIMS application as the name used for approval cycles, request form approvals, etc.

The **To Do List** appears as a table containing nine columns labeled as follows:

- **!**
- **Type**
- **Job ID**
- **Due Date**
- **Due Event**
- **Task Description**
- **State**
- **Date Received**
- **Assigned By**

The **!** column identifies the priority status of OCRs only. The **!** icon in this column signifies high priority OCRs.

The **Type** column displays the icon associated with the document or OCR.

Help: For a description of folder types and a cross-reference list of icons and their corresponding descriptions see, “Appendix D PIMS Folder Types and Icon Representations” and “Appendix B Folder and Document Types”.

The **Job ID** column displays the number assigned to the job. If the job is an OCR, then this column will indicate the OCR number.

The **Due Date** column identifies the latest date (if specified) that the task must be completed by. The **Due Date** is displayed in Greenwich Mean Time (GMT) with a format of (YYYY DDD:HH:MM:SS).

The **Due Event** column identifies the corresponding event by which the task must be completed. If the task involves an OCR, then this column will reflect the entry made in the Due Event field on the OCR. If the task relates to a document, then this column will reflect an event specified by the Assigner of the task.

The **Task Description** column describes the assigned task that you are to perform.

The **State** column identifies the CM state of the document or OCR.

Help: For a current listing of task descriptions and states see, “Appendix C, Table C-2, To Do List task/state values”.

The **Date Received** column indicates the date the task was received. The **Date Received** is displayed in GMT format (YYYY DDD:HH:MM:SS).

The **Assigned By** column displays the user ID of the user that assigned the associated task.


The first user to select an action item from the **To Do List** table will acquire the task, receive the necessary workflow forms to complete the task (depending on the PIMS role of the user), and determine the subsequent routing of the workflow process based on the action taken. Once the task is completed, the task item is automatically removed from the **To Do List** table.

Complete Task Dialog Box

The **Complete Task** dialog box (see Figure 2-3, (PIMS) Complete Task dialog box) allows the user to:

- View the document or OCR in question
- Make notes concerning the document
- Add any relevant attachments to the document
- View the Configuration Management (CM) Log for a concise CM history
- Route the document or OCR to a list of selected reviewers for their concurrence or non-concurrence before he approves or disapproves the document.

The (PIMS) **Complete Task** dialog box can be navigated to in any of three ways:

- Double-clicking a To Do List action item
- Clicking the To Do List 
- Selecting the **Complete Task...** option from the **Options** menu

Note: The **Complete Task** dialog box may be invoked in any of three configurations (stateless document, CM managed document, or OCR) depending on the action item selected from the **To Do List** table. This workbook will limit it's discussion of the **Complete Task** dialog box to the configuration invoked for the processing of an OCR.

Job ID: bf1a11800863 Special Processing: ☒ Safety Of Flight

Role: Originator Priority: ☒ Normal ☐ Urgent ☒ Medical Sensitive

Task Description: Develop OCR ☒ Proprietary Sensitive

Title: Training 0061

OCR | CR Log | Resource Impacts | Reviewers

Originator: bf1a118 Due Event: Event01

Type: ☒ Standard Earliest Date: 2000-12-30

☐ Follow Up Desired Date: 2000-12-30

Effectivity: ☒ Permanent for this MDP Latest Date: 2000-12-30

☐ Permanent for future MDPs

☐ Temporary

State: Development

Description Of Change:
User Guide documentation

Reasons For Change:
None available

Save Submit Withdraw Cancel Help

Figure 2-3, (PIMS) Complete Task dialog box

The (OCR) configuration of the **(PIMS) Complete Task** dialog box (see Figure 2-3, (PIMS) Complete Task dialog box) is invoked whenever the **Type** of task, as defined in the **To Do List** table, is an OCR. The appearance, functionality, and user capabilities of this version of the **(PIMS) Complete Task** dialog box will vary and are determined by the CM state of the OCR and the user's role within the OCR workflow.

The common elements of the OCR **(PIMS) Complete Task** dialog box are comprised of the text entry fields and radio boxes above the tabbed area and the individual tabbed areas. (For descriptive purposes the **Complete Task** dialog box for an originator is used in this description, as it represents a basic configuration.) The radio buttons and text entry fields at the top of the screen remain unchanged when different tabs are selected.

The **Job ID**: represents the OCR number and consists of the user ID of the originator and next sequential OCR number generated by CRCM. This is a view-only field corresponding to the selected **Job ID** from the **(PIMS) To Do List**.

The **Role**: view-only field is your role in the OCR workflow as assigned by CRCM.

The **Task Description:** view-only field corresponds to the selected **Task Description** from the **(PIMS) To Do List** and displays a description of the task to be completed.

The **Title:** text entry field is an editable text field in which the user may enter a title. Entries in this field are limited to 100 characters in length.

The **Priority:** radio buttons indicate the priority level of the OCR. The selections are **Normal** (default) or **Urgent**.

The **Special Processing:** radio buttons include:

- **Safety of Flight**
- **Medically Sensitive**
- **Proprietary Sensitive**

OCR Tab

The **OCR** tab is initially visible when the **(PIMS) Complete Task** dialog box is invoked. The **OCR** tab provides the means to enter general information concerning the OCR. Information entered in this tab define the following OCR attributes:

- OCR type
- Effectivity of the OCR
- CMCR state
- Due event
- Time constraints
- Description of the change
- Reason for the change

CM Log Tab

The **CM Log** tab contains a CM history, in tabular form, for the OCR. The table consists of six columns labeled as follows:

- **Task**
- **Action**
- **User ID**
- **Notes**
- **State**
- **CM Date**

Each row in the table represents an individual accession in the OCR workflow. For a new OCR, the table will contain a single entry representing the development of the OCR.

Resource Impacts Tab

As it's name implies, the **Resource Impacts** tab indicates which Payload Operations Integration Center (POIC) resources will be affected by the implementation of this OCR. This tab consists of five user-editable frames, labeled as follows:

- **Activity/Sequence**
- **Manual Procedures**
- **Commanding**
- **Downlink Data**
- **File Uplink Requests (to PL MDM)**

All the frames and text entry fields that comprise the **Resource Impacts** tab are initially blank for a new OCR but are all editable by the user.

Reviewers Tab

The **Reviewers** tab for a new OCR, in the development state, will contain only noneditable information concerning the Safety Of Flight reviewer. The Safety of Flight reviewer is the only reviewer that can be affected by the OCR developer by selecting the **Safety Of Flight** checkbox under **Special Processing:**. If the **Safety Of Flight** checkbox is selected, the Safety Of Flight reviewer's user ID will appear on the tab vice **None**. The appearance and contents of the **Reviewers** tab will change as appropriate with the CRCM workflow **Role:** and **Task Description:**.

Control Panel

The control panel of the **Complete Task** dialog box provides a graphic presentation of the capabilities afforded to a particular CRCM role. As the iterations of the dialog box change with the CRCM workflow **Role:** and **Task Description:**, the configuration of the control panel changes and provides the most information concerning the capabilities provided to any one CRCM role (see Figure 3-4, Control panel comparison).

Originator

Save	Submit	Withdraw	Cancel	Help
------	--------	----------	--------	------

Reviewer

Save	Cancel	Don Cancel	Cancel	Help
------	--------	---------------	--------	------

Facility Lead Approver

Save	PutBack	Final Approval	Submit To POIC	Disapprove	Cancel	Help
------	---------	-------------------	-------------------	------------	--------	------

POIC POD Approver (release for review)

PutBack	Final Approval	Release For Review...	Hold	Disapprove
Save	Cancel			Help

POIC POD Approver

Save	PutBack	Request Approval	Final Approval	Disapprove	Cancel	Help
------	---------	---------------------	-------------------	------------	--------	------

SOF Reviewer

Save	Cancel	Don Cancel	Cancel	Help
------	--------	---------------	--------	------

Actionee

Save	Engagement	Cancel	Help
------	------------	--------	------

Figure 3-4, Control panel comparison

Summary

This module has introduced the To Do List application, the DCM workflow, and the CRCM workflow. Components of the **To Do List** main window were discussed as well as document types and OCRs. Features of the **Complete Task** dialog box were described as well as the actions that could be taken via the **Complete Task** control panel.

With the conclusion of this module you should be able to:

- Discern required tasks
- Interpret information displayed on the **To Do List** main window
- Demonstrate OCR processing capabilities made available by the **Complete Task** dialog box

Module 3

Documents

Objectives

The purpose of the Payload Information Management System (PIMS) is to provide for the management of payload information documents for ground operations planning and for their timely dissemination onboard the International Space Station (ISS). In this module you will learn:

- PIMS document types
- PIMS database organization
- **(PIMS) Documents** main window nomenclature
- how to use dialog boxes invoked through the **Documents** menus

Documents Concept

The Documents application provides configuration management of documents. A document can be a multifile document or a single file document having at least one content file associated with it. The documents application enforces the restriction that document names and the associated content filenames must be unique within a Mission, Operational support mode, and Project (MOP).

Specific document classes are recognized within PIMS for purposes of applying business rules or logic to a specific class of document according to Level B requirements. The PIMS database vault is organized based on the following document classes:

- Anomaly Logs
- Automated Procedures
- Crew Messages
- Crew Procedures (manual)
- Downlinked Files
- General
- Payload Planning Files
- Shift Reports

Further, all documents in PIMS are associated with a specific document folder. The following table presents the document folder types that have been identified as parent folders within Documents and will be presented to the user on the **Documents** main window:

Table 3-1. Document Folder with Document Class

Parent Folder Type	Document Class
Anomaly Logs	Anomaly Logs
Automated Procedures	Automated Procedures
Crew Messages	Crew Messages
Crew Procedures	Crew Procedures
Downlinked Files	Downlinked Files
Miscellaneous Documents	General
OCMS Files	General
Payload Planning Files	Payload Planning Files
Personal	Any class (user specified)
Shift Reports	Shift Reports

The Documents application provides access to and from the PIMS database vault, but before access can be granted to the vault, each document must be registered with the PIMS database. Registration guarantees uniqueness of the document and the associated content files for subsequent check-out and check-in by the owner of the document. All documents registered with the PIMS database are considered stateless; i.e., they have not been baselined through the document configuration management workflow process. Only the owner of a stateless document may check out the document for editing and check it back in with modifications. All other users can only view the document.

The Documents application integrates with the document configuration management workflow process (see Figure 3-1, Documents concept and “Appendix C, Figure C-1, Document management workflow diagram”). The functionality allows privileged users to assign document managers and reviewers to documents needing to be baselined or baselined documents requiring new revision modifications. The configuration management workflow process makes a new revision to the entire document, not just a component content file, even if the component content file was the only part of the document that changed. The document approver role is the only PIMS role that can assign document managers and reviewers to the document. A document approver that assigns a document manager to a document automatically becomes the document approver for that document.

The document manager role and responsibility has to do with ensuring the document is properly prepared for submittal to the document approver. The document manager may assign a writer to a document’s content file for making revisions. When a writer is finished making the required edits, he marks the file ready for submit to review. When all associated content files in a document have been marked ready for submittal, the document manager can submit the document to the document approver for review and approval to baseline.

The Documents application also provides the users with access to the Huntsville Operations Support Center (HOSC) Drop Box for sending files to Mission Control Center-Houston (MCC-H) and for retrieving files from the MCC-H Drop Box.

All files will be checked for viruses before being stored in the PIMS database. The virus check will be accomplished through a SSSS virus checking routine (VFIND commercial off the shelf (COTS) product). All files to be checked are placed in a quarantine area on the PIMS server. A SSSS virus checking routine will be called for to check each file for viruses. If a virus detected status is returned on a file, the file is moved to a holding area on the PIMS server dubbed the “DMZ”. When a file is placed in the “DMZ”, a dialog box is displayed informing the user of the event and to notify the Integrated Support Team (IST).

A file that is stored in the “DMZ” will be held for at least 24 hours. The DCM routine that moves a file into the “DMZ” will check the directory for any existing files. Any of these files that are over 24 hours old will be removed.

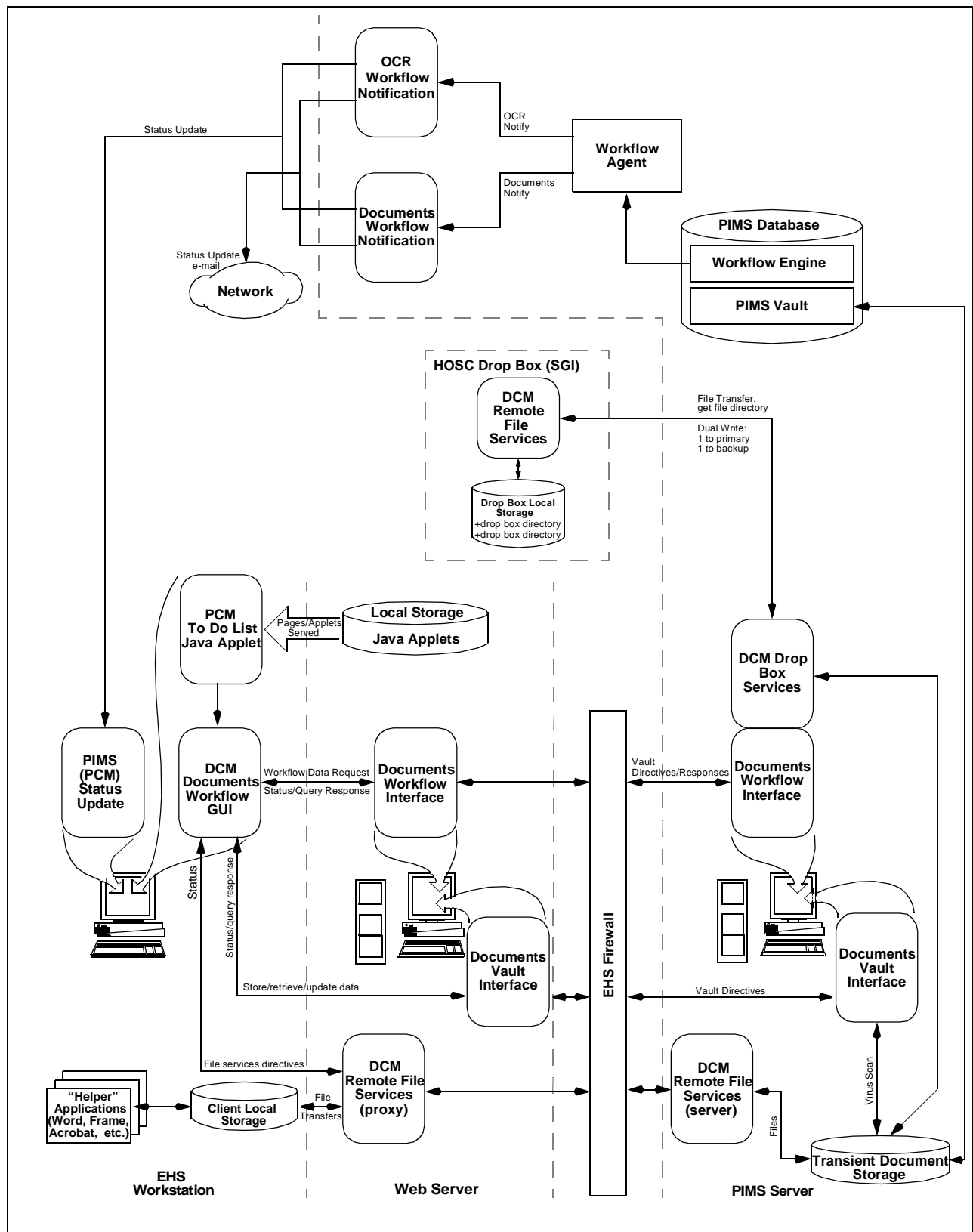


Figure 3-1, Documents concept

PIMS Documents

Selecting the **D**ocuments menu item from the **P**IMS menu of the **L**aunchpad invokes the **(PIMS) Documents** main window (see Figure 3-2, Documents main window). The Documents application has the capability to access and manipulate folders and their component files from the PIMS database.

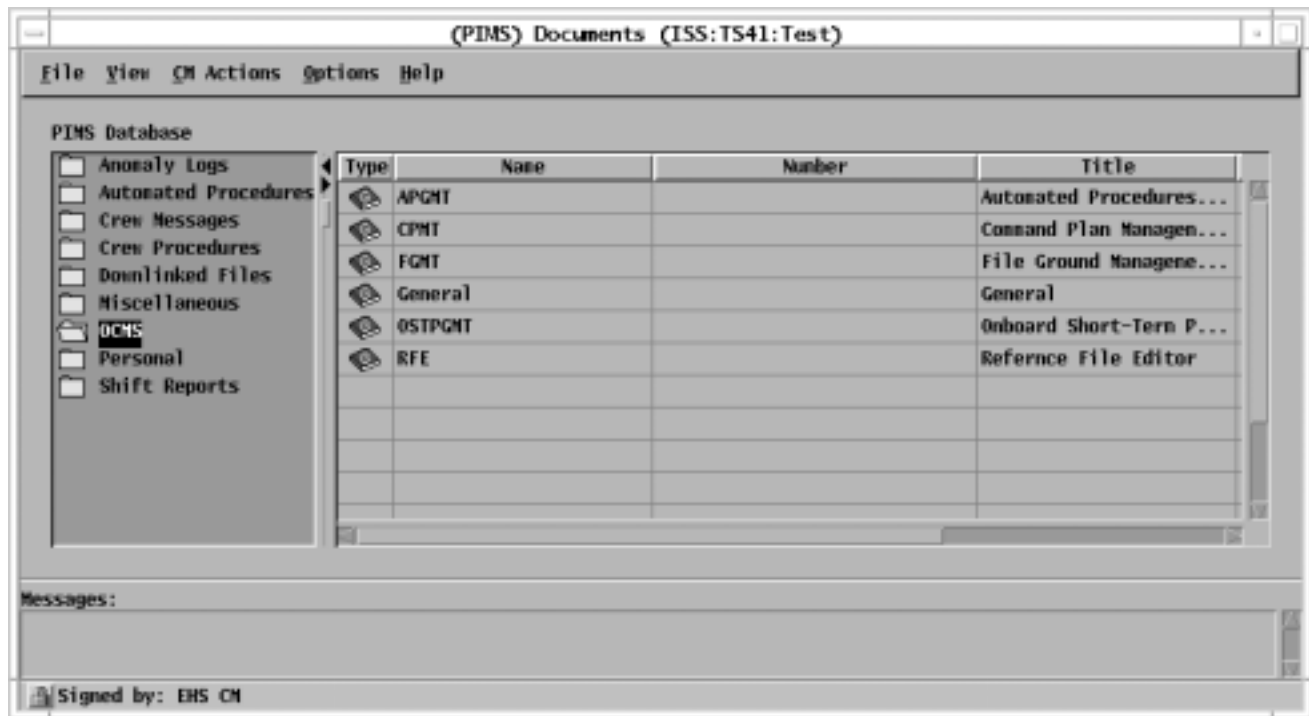


Figure 3-2, Documents main window

The work area of the **Documents** main window contains two frames. The frame on the left displays the **PIMS Database** document tree structure, and the frame on the right displays a document or file table. The document table will be displayed when a folder is selected from the document tree structure, and the file table will be displayed when a document is selected.

The frames can be resized horizontally by clicking and dragging on the bar between them or clicking on one of the black arrow symbols (► or ◀) located on the bar. Both frames contain scroll bars to view portions of the lists that initially may not be visible.

The frame on the left, **PIMS Database**, contains a document tree structure. The document tree structure contains folders that reside in the PIMS database.

Help: See “Appendix B Folder and Document Types” for a description of PIMS database folders.

When you click once on any of the **PIMS Database** folders, the contents of the selected folder will be displayed in the document table frame to the right. The document table contains seven columns:

- The **Type** column displays an icon depicting the document type

Help: See the “Appendix B Folder and Document Types” for a description of PIMS document types.

- The **Name** column displays the name of the document
- The **Number** column displays the number of the document
- The **Title** column displays the title associated with the document
- The **CM Revision** column displays the revision of the document
- If a document has been checked in, the **PIMS Version** column displays the version of the document; otherwise, the field will be blank.
- If the document has been checked out, the **Checked Out** column contains the ID of the user who checked the document out; otherwise, the field will be blank.

If you double-click on a folder in the document table, the document table will reconfigure to display the contents of the selected folder. If you double-click on a document in the document table, the document table will reconfigure to the file table and will display the files associated with the selected document. The file table contains six columns:

- The **Type** column displays an icon depicting the file type

Help: See the “Appendix B Folder and Document Types” for a description of PIMS file types.

- The **File Name** column displays the name of the file
- The **CM Revision** column displays the revision of the document
- If a file has been checked in, the **PIMS Version** column displays the version of the file; otherwise, the field will be blank
- The **Size** column displays the size of the file in bytes
- If the file has been checked out, the **Checked Out** column contains the ID of the user who checked the file out; otherwise, the field will be blank.

Note: The default sort order for the document table is in ascending order by the **Name** column. The default sort order for the file table is in ascending order by the **File Name** column. You can change the sort order by clicking once on any column heading. This will sort the table by the selected column’s descending order. Click again to sort by ascending order.

Documents Menu Options

The only **Documents** menu options that will be discussed in this module are those denoted in Figure 3-3, Selected menu options.

Help: For a complete discussion of all the menu options available on the **(PIMS) Documents** menu bar see Using the Huntsville Operations Support Center (HOSC) Payload Information Management System (PIMS) Software (HOSC-EHS-1136).

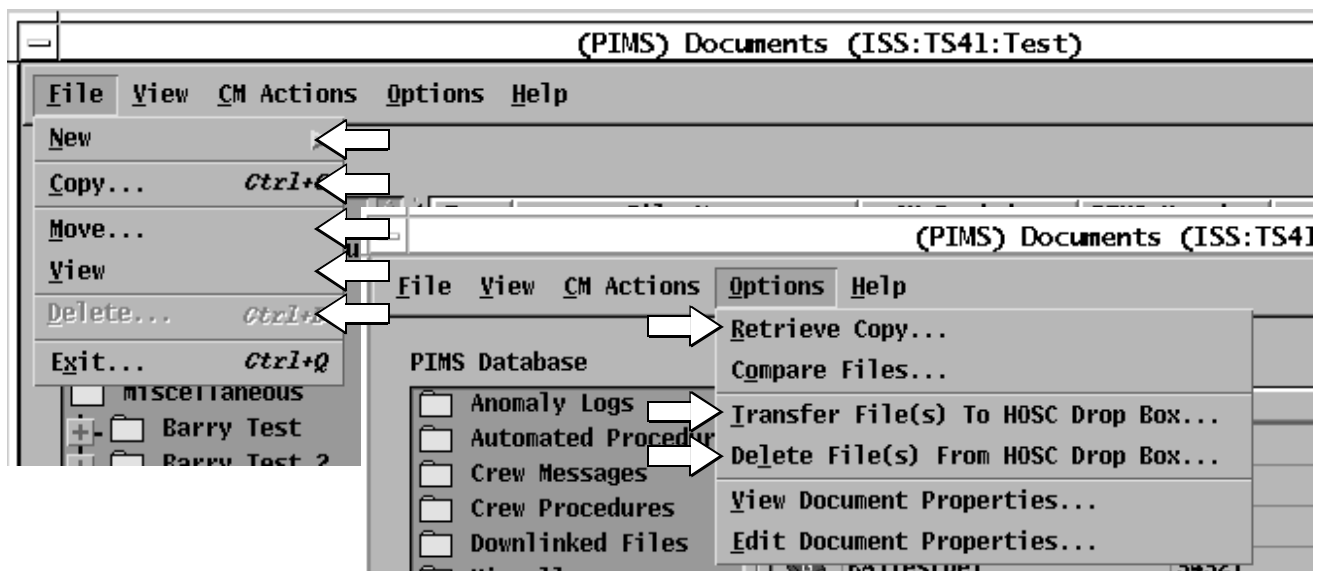


Figure 3-3, Selected menu options

New

The **N**ew menu item allows you to create a new document or folder. When you select this menu item, a cascade menu will be invoked that contains the **D**ocument... and **F**older... menu items (see Figure 3-4, New cascade menu).

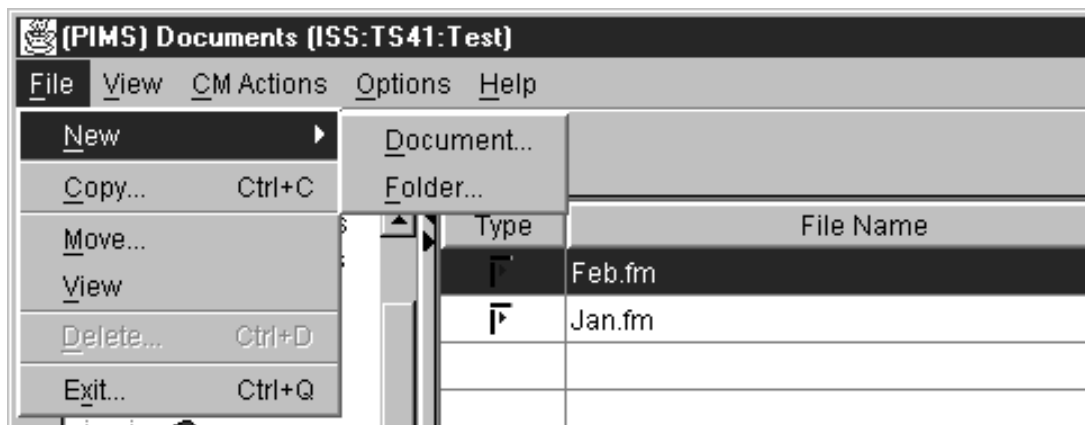


Figure 3-4, New cascade menu

Document

The **D**ocument... menu item invokes a dialog box that allows you to create a new PIMS document (see Figure 3-5, New document dialog box).

(PIMS) New Document (ISS:TS41:Test)

Document Name:

Class:

PIMS Folder:

Number:

☐ OCR Control

Title:

Description:

Document Files

Type	Name	Size	Document View
F	tstfile1.fn	33,792	None
✎	tstfile2.as	76	None

Add... Edit... Delete



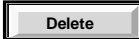



Register Check In Cancel Help


Signed by: EHS CM

Figure 3-5, New document dialog box

Create a New Document:

1. From the **Documents** menu bar, select the **New** menu item from the **File** menu to invoke a cascade menu. From this cascade menu, select the **Document...** menu item to invoke the **New Document** dialog box.
2. Enter a name for the new document in the **Document Name:** input text field.
3. Select the document's class from the options available under the **Class:** pulldown option menu.
4. Click on to select the PIMS storage folder for the new document.
5. Enter the document number in the **Number:** input text field.
6. For OCR control of the new document, click on the **OCR Control** selection box.

7. Enter the document title in the **Title:** input text field.
8. Enter a description of the document in the **Description:** input text field.
9. Click on  from the **Document Files** table to add component files to the new document.
10. If you want to change the name of any component file you have added, select the file and click on  from the **Document Files** table.
11. If you want to delete a component file you have added, select the file and click on  from the **Document Files** table.
12. To register the new document in the PIMS database, click on  in the buttons area of the **New Document** dialog box.
13. To check the new document into the PIMS database, click on  in the buttons area of the **New Document** dialog box. When the document has been checked into the PIMS database, you will receive an information message. Click on .

Clicking  **Document Files** frame invokes the **Add File** dialog box that allows you to add a previously created file to a PIMS document. This dialog box also allows you to register (create a placeholder) for a file in the PIMS database (see Figure 3-6, (PIMS) Add File dialog box).

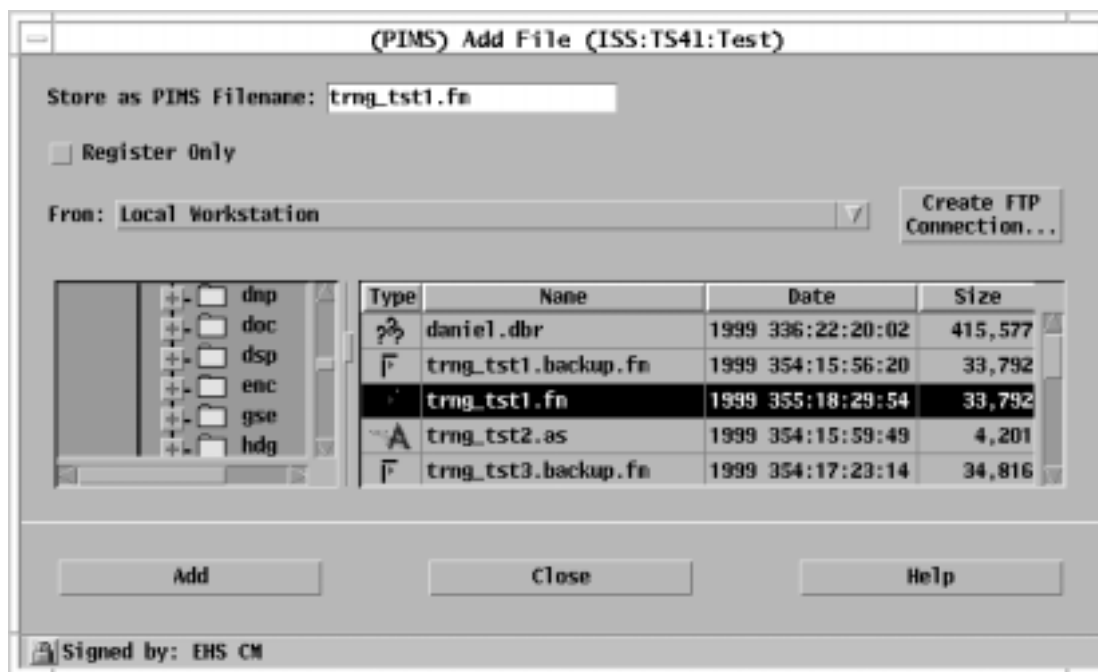


Figure 3-6, (PIMS) Add File dialog box

The **Register Only** field allows you to register a file in the PIMS database. Registering a file creates a placeholder for the file using the name entered in the **Store as PIMS Filename:** input text field. As an example, this function is used during a file downlink when the storage location for a file must be reserved in PIMS before the file is actually downlinked from the ISS. When this function is selected, a checkmark is displayed in the selection box, and the document tree structure and file table are no longer displayed on the dialog box (see Figure 3-7, (PIMS) Add File dialog box - Register Only).

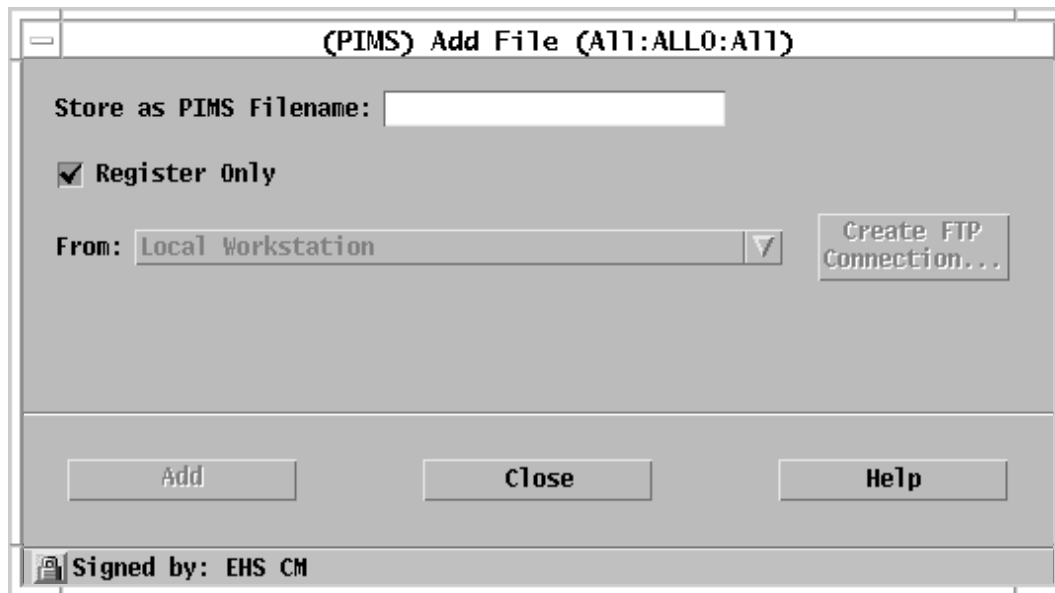






Figure 3-7, (PIMS) Add File dialog box - Register Only


Add a Component File to a Document:

1. Click on  to invoke the **Add File** dialog box.
2. If the file to be added is located on your local workstation, navigate through the root level folders in the document tree structure frame on the left until the file is displayed in the file table on the right.

OR:

3. If the file to be added is located on another workstation, you can create a File Transfer Protocol (FTP) connection by clicking on . Select the remote system's IP address on the **From:** option pulldown menu and the root level folders of the remote system will be displayed in the document tree structure frame on the left.
4. Select the file to be added in the file table frame on the right. The filename will automatically be entered into the **Store as PIMS Filename:** input text field at the top of the **Add File** dialog box.
5. Click on  to add the selected file to the PIMS document.

6. Click on  to terminate any FTP connection, and close the **Add File** dialog box.

Clicking the  invokes the **Create FTP Connection** dialog box which allows you to create an FTP connection to a remote system (see Figure 3-8, (PIMS) Create FTP Connection dialog box).

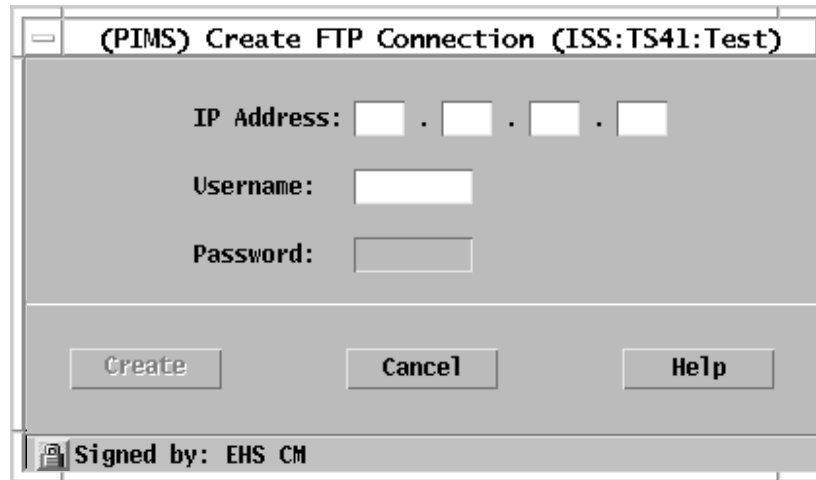
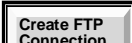





Figure 3-8, (PIMS) Create FTP Connection dialog box

Create an FTP Connection to a Remote System:

1. Select  on the **Add File** dialog box to invoke the **Create FTP Connection** dialog box.
2. Enter the IP address of the workstation you want to establish an FTP connection with in the **IP Address:** input text field.
3. In the **Username:** input text field, enter your username for the remote system.
4. In the **Password:** input text field, enter your password for the remote system.
5. Click on  to establish an FTP connection to the selected system. The IP address of the selected system will be displayed on the **From:** pulldown option menu on the **Add File** dialog box. The connection will be terminated when  is selected on the **Add File** dialog box.

Clicking the  in the **Document Files** frame invokes the **Edit Document File** dialog box which allows you change the name of a selected file from the **Document Files** table on the **New Document** dialog box (see Figure 3-9, (PIMS) Edit Document File dialog box).

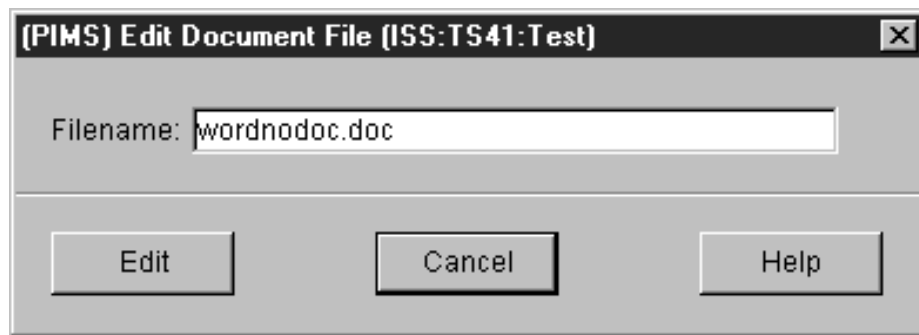





Figure 3-9, (PIMS) Edit Document File dialog box

Edit a Component File's Name:

1. On the **New Document** dialog box, select the component file you want to change the name of from the **Document Files** table, and click on  to invoke the **Edit Document File** dialog box.
2. Edit the component file's name in the **Filename:** input text field.
3. Select  to change the component file's name and close the **Edit Document File** dialog box.

Selecting the  from the control panel of the **(PIMS) New Document** dialog box invokes the **(PIMS) Register New Document** dialog box (see Figure 3-10, (PIMS) Register New Document dialog box). This dialog box allows you to register a document in the PIMS database and assign a due date for it. Once a document is registered, it is displayed on the **To Do List** application main window.

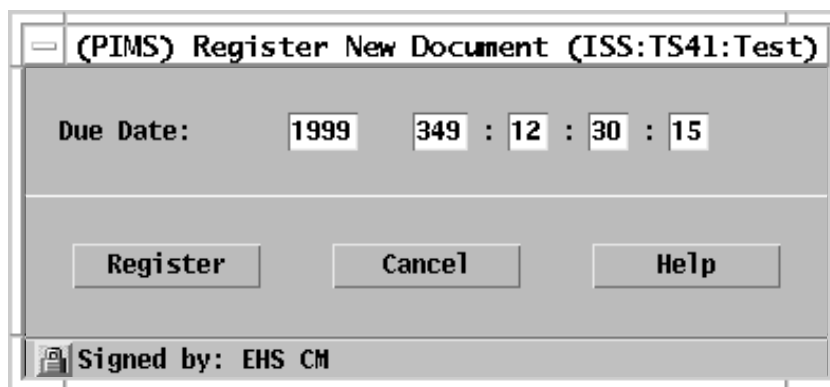



Figure 3-10, (PIMS) Register New Document dialog box

Register a New Document in the PIMS Database:

1. Select  on the buttons area of the **New Document** dialog box to invoke the **Register New Document** dialog box.

2. Enter the year the document is due in the first **Due Date:** input text field.
3. In the next input text field, enter the Julian day (numerical day of the year). This number must be between 001 and 365.
4. In the next input text field, enter the hour. This number must be between 00 and 23.
5. In the next input text field, enter the minute. This number must be between 00 and 59.
6. In the next input text field, enter the second. This number must be between 00 and 59.
7. Click  to register the document in the PIMS database with the assigned due date. When the document has been registered, you will receive an information message dialog box.

Folder...

Selecting the Folder... menu item invokes the **New Folder** dialog box. This dialog box allows you to create a new storage folder (see Figure 3-11, (PIMS) New Folder dialog box).

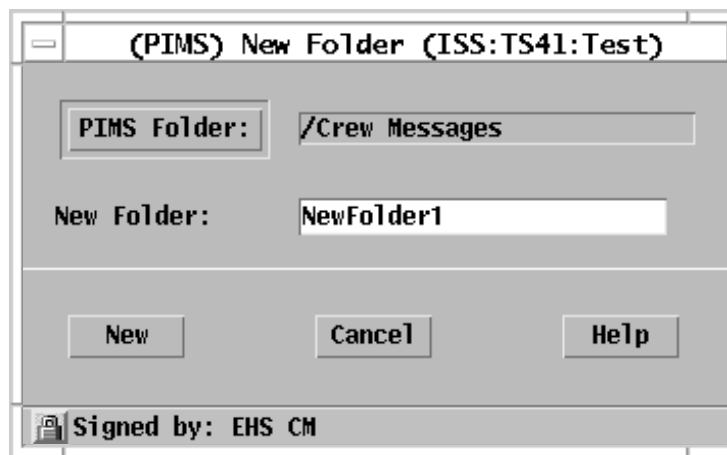



Figure 3-11, (PIMS) New Folder dialog box

Create a New Folder in the PIMS Database:

1. Select the **Folder...** menu item from the **New** cascade menu on the **File** menu of the Documents main window to invoke the **New Folder** dialog box.
2. Select  to select the PIMS database folder for storage of the new folder.
3. Enter a name for the new folder in the **New Folder:** input text field.

- Click on **New** to create the new folder and close the dialog box. When the new folder has been created, you will receive an information message dialog box.

Copy...

The **Copy...** menu item allows you to copy documents from another MOP (source MOP) to the current one. When you select this menu item, the **Copy** dialog box is invoked (see Figure 3-12, (PIMS) Copy dialog box).





Figure 3-12, (PIMS) Copy dialog box

Copy a Document from Another MOP to the Current MOP:

- Select the **Copy...** menu item from the **File** menu of the **Documents** main window to invoke the **Copy** dialog box.
- Click on **Source MOP:** to select the source MOP that contains the document you want to copy to the MOP you are currently logged into.

Help: See the following section “Select MOP Dialog Box” for step-by-step instructions on selecting the source MOP.

- Navigate through the source MOP’s PIMS database document tree structure in the frame on the left until the document you wish to copy is displayed in the document file table frame to the right.
- Highlight the document to be copied by clicking on it from the source MOP document file table.

5. Select the folder you want to copy the document to in the current MOP's PIMS database document tree structure frame on the right side of the dialog box.
6. Click on  in the buttons area of the **Copy** dialog box to copy the selected document from the selected source MOP to the current MOP. After the document is copied, you will receive an information message dialog box.
7. Click on  the **Copy** dialog box and return to the **Documents** main window.

Select MOP Dialog Box


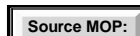
Selecting  **Copy** dialog box invokes the **Select MOP** dialog box (see Figure 3-13, (PIMS) Select MOP dialog box). This dialog box allows you to select a source MOP for copying a document from.



Figure 3-13, (PIMS) Select MOP dialog box

Select a Source MOP to copy a document from:

1. Select  on the **Copy** dialog box to invoke the **Select MOP** dialog box.
2. From the MOP list, select the MOP that contains the document you wish to copy to the MOP you are currently logged into.

- Click on **Select** to select the MOP highlighted on the MOP list and close the **Select MOP** dialog box. The selected MOP will be displayed in the **Source MOP:** input text field on the **Copy** dialog box.

Move...

The **Move...** menu item allows you to move a selected document from one PIMS database folder to another. When you select this menu item, the **Move** dialog box is invoked (see Figure 3-14, (PIMS) Move dialog box).

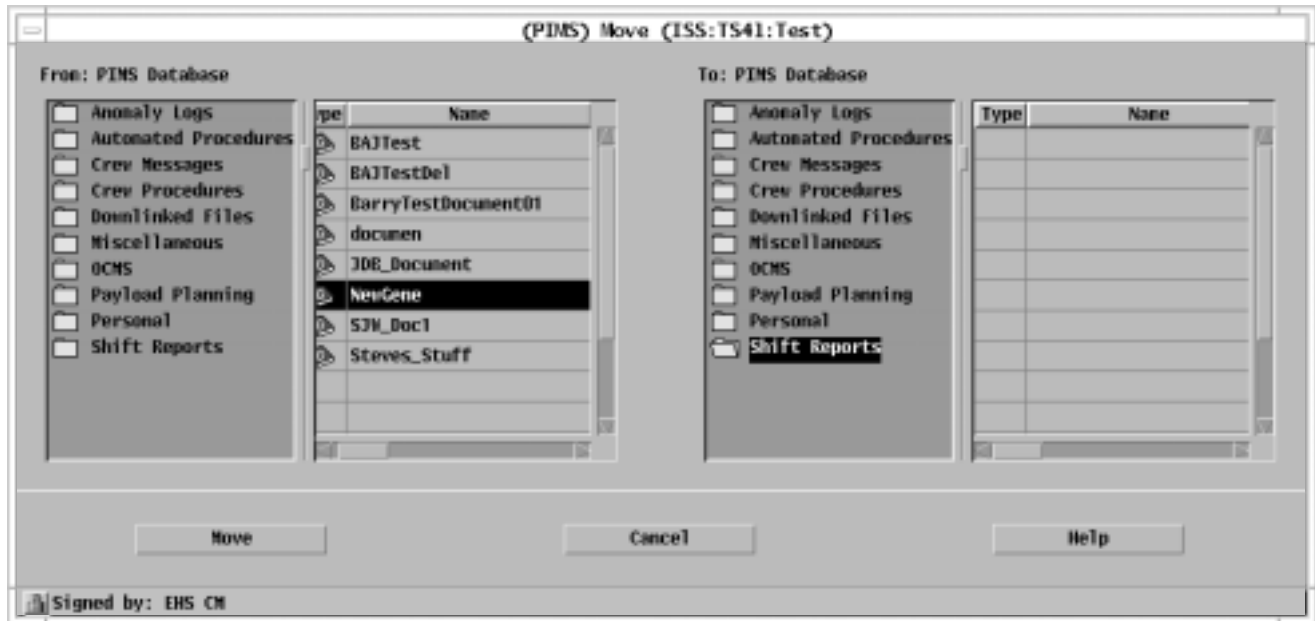




Figure 3-14, (PIMS) Move dialog box

Move a Document from One PIMS Database Folder to Another One:

- Select the **Move...** menu item from the **File** menu of the **Documents** main window to invoke the **Move** dialog box.
- Navigate through the PIMS database document tree structure in the frame on the left until the document you wish to move is displayed in the document file table frame to the right.
- Highlight the document to be moved by clicking on it from the document file table on the left side of the **Move** dialog box.
- Select the folder you want to move the document to in the PIMS database document tree structure frame on the right side of the **Move** dialog box.

5. Click on  in the buttons area of the **Move** dialog box to move the selected document from the previous PIMS database folder to the newly selected PIMS database folder. After the document is moved, you will receive an information message dialog box.
6. Click on  the **Move** dialog box and return to the **Documents** main window.

View

The **View** menu item allows you to view component files by selecting a file or document from the document tree structure. If a file is selected, the file is launched in the associated application. If a document is selected, the function of the **View** menu item is determined by the **Document View** option selected from the **New Document** dialog box. The three possible options include:

- **Transfer** - the file is copied to your local workstation in the C://tmp directory after selecting the document containing the file designated as **Transfer** and selecting the **View** menu item.
- **Launch** - the file is copied to your local workstation and immediately launched using the associated application after selecting the document containing the file designated as **Launch** and selecting the **View** menu item. In order for the file to be launched, your local workstation must be loaded with the associated application. Only one file within a document can be designated as **Launch**. One file within a document must be designated as **Launch** for the **View** menu item to be available (sensitive).
- **None** - the file is not copied or launched after selecting the document containing the file designated as **None** and selecting the **View** menu item.

Delete...

The **Delete...** menu item allows you to delete a document or folder from the PIMS database. When you select this menu item, you will receive a confirmation dialog box (see Figure 3-15, Delete Confirmation Message).

Note: The **Delete...** menu item will not be available (insensitive) if:

- a folder that contains files or documents is selected from the document tree structure or the documents table by the owner
- a stateless document is selected from the document tree structure or the documents table by the owner
- a stateless file is selected from the files table by a user other than the owner

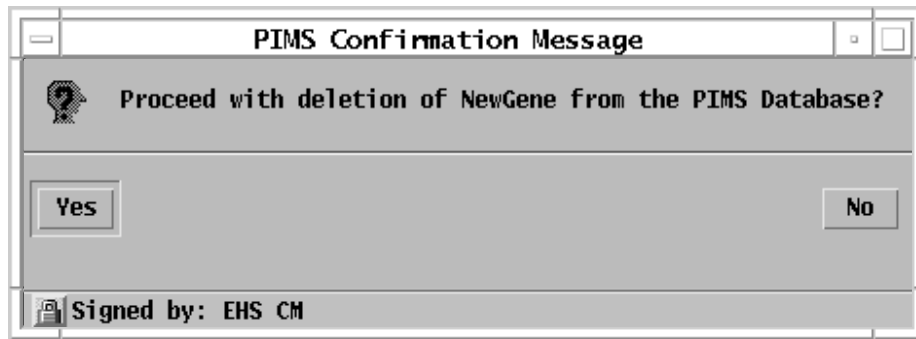


Figure 3-15, Delete Confirmation Message

This dialog box contains a message asking if you want to proceed with deletion of the selected document or folder from the PIMS database.

The buttons area contains two pushbuttons:



- closes the confirmation dialog box and deletes the selected file from the PIMS database. This is the default pushbutton.



- closes the confirmation dialog box without deleting the selected file from the PIMS database.

Retrieve Copy...

Selecting the **Retrieve Copy...** menu item from the **Options** menu invokes the **(PIMS) Retrieve Copy of File** dialog box (see Figure 3-16, (PIMS) Retrieve Copy of File dialog box) which allows you to retrieve a copy of a file from the PIMS database to a selected workstation.

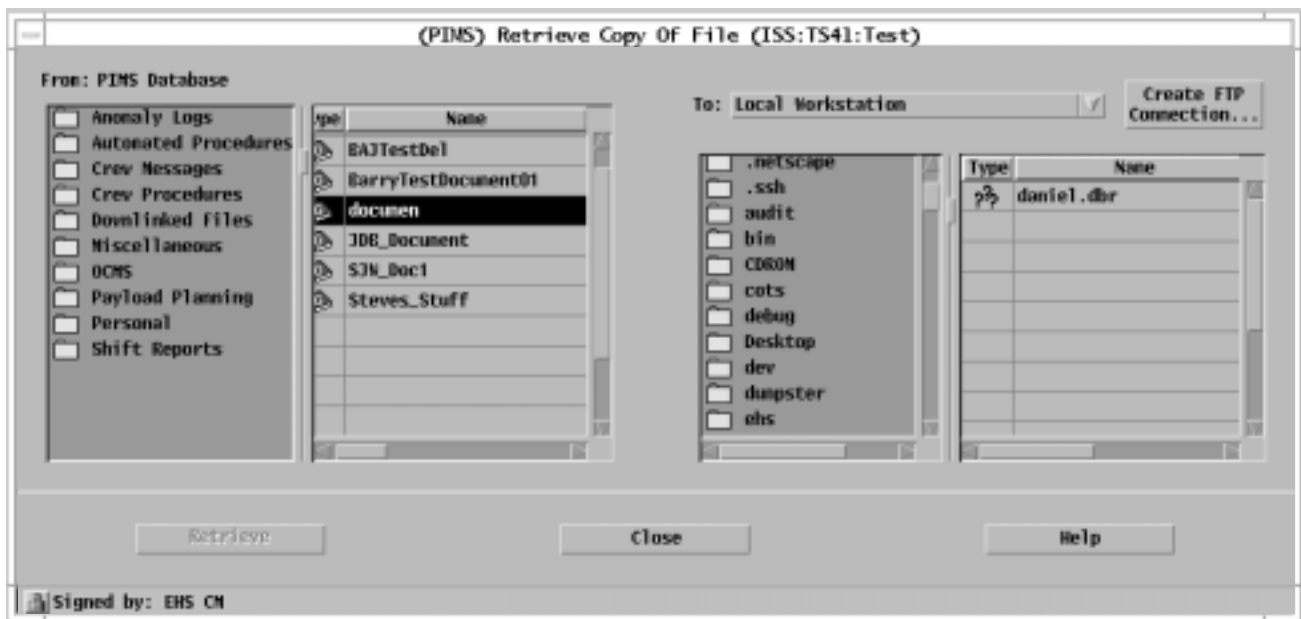


Figure 3-16, (PIMS) Retrieve Copy of File dialog box

On the left side of the dialog box is the **From: PIMS Database** display-only field and corresponding frames below. The frame on the left contains folders within the **PIMS Database**, and the frame on the right contains a table. The frames can be resized by clicking and dragging on the bar between them. Both frames contain scroll bars to view portions of the lists that initially may not be visible.


The frame on the left contains a document tree structure. The document tree structure contains folders that reside on the PIMS database.

When you click once on any of the **PIMS Database** folders, the documents of the selected folder will be displayed in the document table frame to the right.

If you double-click on a folder in the document table, the document table will reconfigure to display the contents of the selected folder.

If you double-click on a document in the document table, the document table will reconfigure to the file table and will display the files associated with the selected document.

On the right side of the **Retrieve Copy Of File** dialog box is the **To:** pulldown option menu from which you select the location where you want to store the copy of the PIMS database file. The possible options on this pulldown option menu include **Local Workstation**, **PIMS Database**, and **IP Address** with the default as **Local Workstation**.

To the right of the **To:** field is . Selecting this pushbutton invokes the **Create FTP Connection** dialog box. This dialog box allows you to store a file on a remote system by establishing an FTP connection to it.

Below the **To:** field are two frames. The frame on the left contains a document tree structure. The document tree structure contains folders that reside on the root level of the selection on the **To:** pulldown option menu.

When you click once on any of the folders, the contents of the selected folder will be displayed in the frame to the right.

Privileged Options Menu

In addition to the standard functions, the **Options** menu for the privileged user will include the **Transfer File(s) To HOSC Drop Box...** and the **Delete File(s) From HOSC Drop Box...** menu items. These options are not available to the non-privileged user.

Transfer File(s) To HOSC Drop Box...

Transfer File(s) To HOSC Drop Box... allows you to transfer files from the PIMS database to the HOSC drop box. When you select this menu item, the **Transfer File(s) To HOSC Drop Box** dialog box is invoked (see Figure 3-17, (PIMS) Transfer File(s) To HOSC Drop Box dialog box).

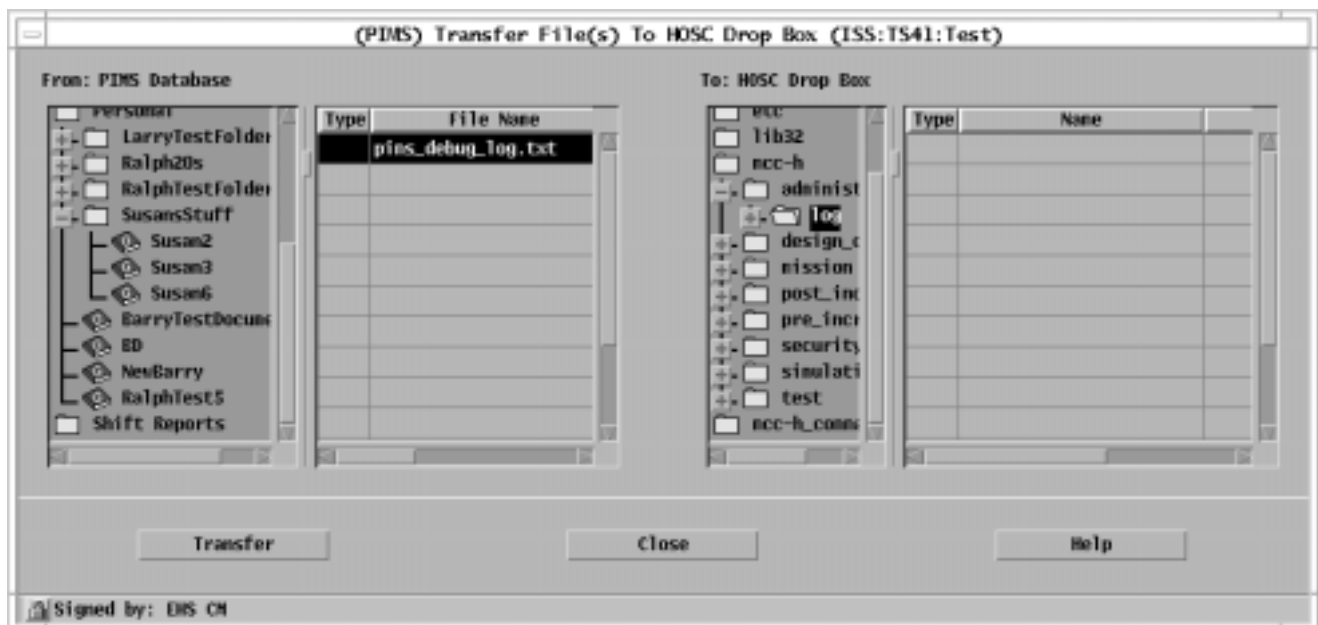


Figure 3-17, (PIMS) Transfer File(s) To HOSC Drop Box dialog box

On the left side of the dialog box is the **From: PIMS Database** display-only field and corresponding frames below. The frame on the left displays the **PIMS Database** document tree structure, and the frame on the right displays a table. The frames can be resized by clicking and dragging on the bar between them. Both frames contain scroll bars to view portions of the lists that initially may not be visible.

The frame on the left contains a document tree structure. The document tree structure contains folders that reside on the PIMS database. When you click once on any of the **PIMS Database** folders, the

documents of the selected folder will be displayed in the document table frame to the right. If you double-click on a folder in the document table, the document table will reconfigure to display the contents of the selected folder. If you double-click on a document in the document table, the document table will reconfigure to the file table and will display the files associated with the selected document.

On the right side of the **Transfer File(s) To HOSC Drop Box** dialog box is the **To: HOSC Drop Box** display-only field and corresponding frames below. The frame on the left initially displays the root level folders on the **HOSC Drop Box**, and the frame on the right contains a table. The frames can be resized by clicking and dragging on the bar between them. Both frames contain scroll bars to view portions of the lists that initially may not be visible.

The frame on the left contains a document tree structure. The document tree structure contains folders that reside on the HOSC Drop Box. When you click once on any of the **HOSC Drop Box** folders, the documents of the selected folder will be displayed in the partitions table frame to the right.

Delete File(s) From HOSC Drop Box...

The **Delete File(s) From HOSC Drop Box...** menu item allows you to delete files from the HOSC drop box. When you select this menu item, the **Delete File(s) From HOSC Drop Box...** dialog box is invoked (see Figure 3-18, (PIMS) Delete File(s) From HOSC Drop Box dialog box).

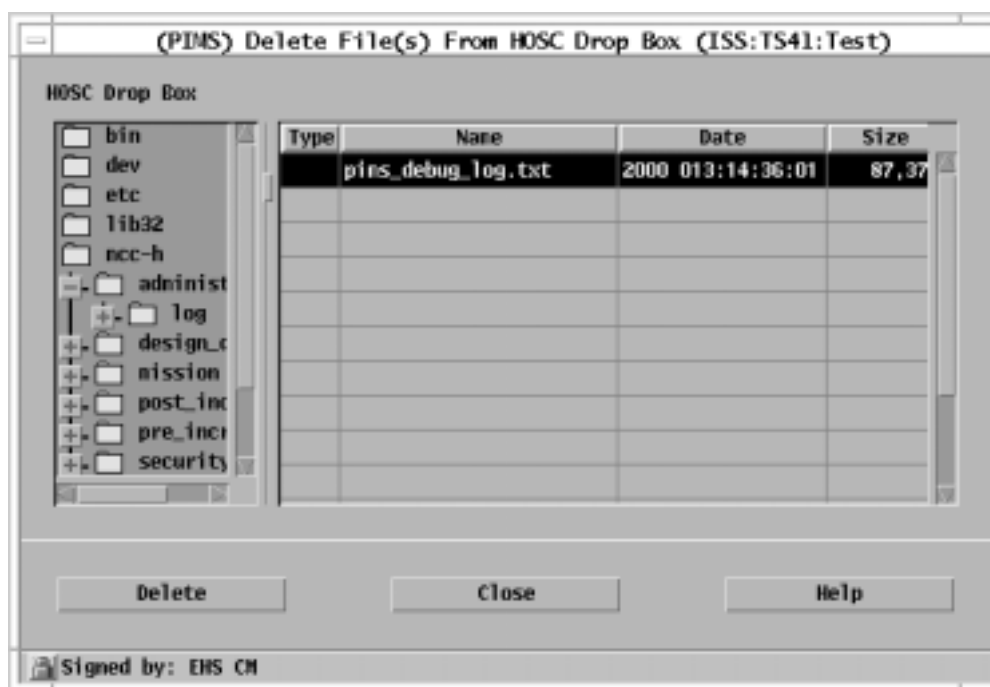


Figure 3-18, (PIMS) Delete File(s) From HOSC Drop Box dialog box

At the top of the dialog box is the **HOSC Drop Box** display-only field. Below the **HOSC Drop Box** display-only field are two frames. The frame on the left initially displays root level folders on the HOSC Drop Box, and the frame on the right contains a table. The frames can be resized by clicking and

dragging on the bar between them. Both frames contain scroll bars to view portions of the lists that initially may not be visible.

The frame on the left contains a document tree structure. The document tree structure contains folders that reside on the HOSC Drop Box. When you click once on any of the **HOSC Drop Box** folders, the contents of the selected folder will be displayed in the partition table frame to the right.

Summary

This module has introduced the PIMS Documents application and Document CM workflow. Also, we briefly discussed the HOSC Drop Box and virus checking within PIMS.

With the conclusion of this module you should be able to:

- navigate and select documents from within the PIMS directory structure
- create a new document
- copy a document from a source MOP to the current MOP
- move documents between PIMS database folders
- view component files
- delete a document from the PIMS database
- retrieve a copy of a file from the PIMS database
- transfer files to the HOSC Drop Box
- delete files from the HOSC Drop Box

Module 4

Operations Change Request (OCR)

Objectives

This module will introduce you to the (PIMS) Operations Change Request (OCR) application. The OCR concept will be discussed as well as the OCR workflow. Intrinsic to the OCR workflow is the tier architecture employed by International Space Station (ISS) and the actions and states defined for the workflow processes.

With the conclusion of this module you will learn:

- **Operations Change Request** main window nomenclature
- the 3-tier architecture
- how to respond to To Do List tasks assigned to you by the OCR workflow

Operations Change Requests Concept

The OCR application is used to get approval for and process real-time changes to payload experiments and their respective documents during current ground crew shift periods. The OCR application provides workflow capability to create OCRs and manage them throughout the approval and implementation process (see Figure 4-2, OCR concept). Like documents, OCRs are Mission, Operational support mode, and Project (MOP) dependent and are stored in the Payload Information Management (PIMS) database vault.

ISS Operations are divided into three groups or tiers (see Figure 4-1, Sample 3-tier architecture).

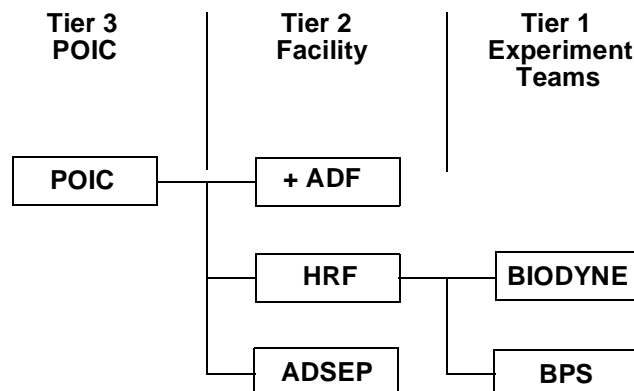


Figure 4-1, Sample 3-tier architecture

Help: Refer to “Appendix C,” “Figure C-2, OCR workflow diagram”, for a graphical representation of the tiers, actions, and states which are defined for OCR processes.

When an OCR is created, it is automatically submitted to the appropriate control authority for the tier of operations. OCR workflow actions include submittal, putback for rework, approve/disapprove, put on indefinite hold, and distribution for review. Review list functions include the designation of reviewers and the collection of comments and votes. Review disapproval does not prevent approval of an OCR.

Upon final approval of an OCR, implementation actions are also controlled as part of the OCR workflow. The control authority designates a list and sequence of implementation actions. The OCR is considered open until all implementation actions are complete. Throughout the approval workflow, actionees are notified of their required actions via the To Do List application.

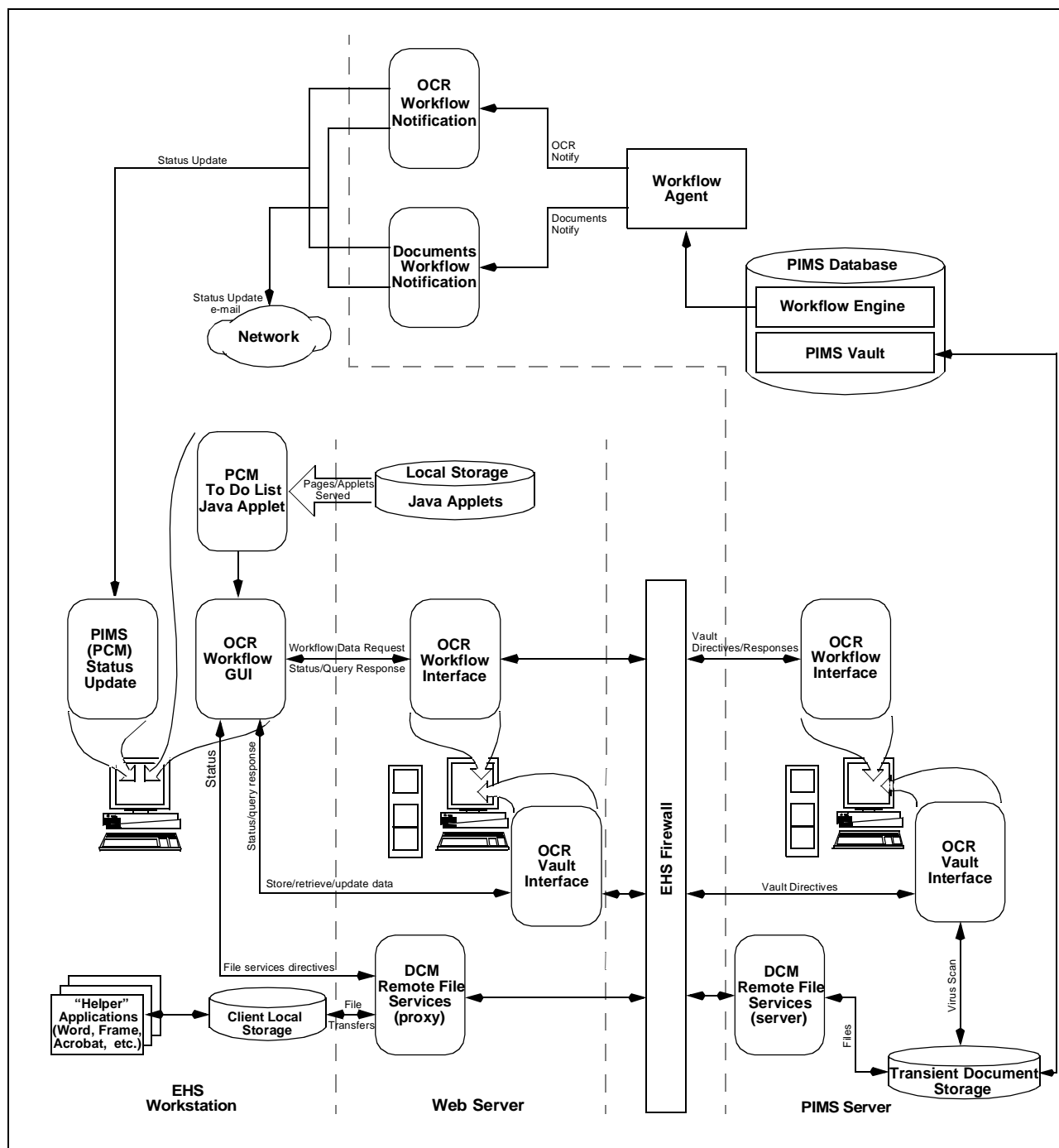


Figure 4-2, OCR concept

PIMS Operation Change Request (OCR)

Selecting the **Operations Change Request (OCR)** menu item from the **PIMS** menu of the **Launchpad** invokes the **(PIMS) Operations Change Request** main window (see Figure 4-3, (PIMS) Operations Change Request main window).

Job ID	OCR Title	State	Orig	Fac	POIC	Act
ste0a100008		Development				
ste0a100005		Submit to POIC	Se			
ste0a100010		Development				
ste0a100011	Test OCR	Submit to POIC	Se			
ste0a100014	Test OCR With Plugin	Submit to POIC	Se			
ste0a100015	Connie's OCR	Submit to POIC	Se			
ste0a100016		Development				
ste0a100025		Submit to POIC	Se			

Figure 4-3, (PIMS) Operations Change Request main window

The work area of the **PIMS Operations Change Request** main window contains a **Filter** frame and the **All Active** Table.

The **Filter** frame allows you to select filtering criteria for listing OCR tasks in the **All Active** table. The **Filter** frame is organized under the following headings:

- **Priority:**
- **Effectivity:**
- **Type:**
- **CM State:**
- **Originator(s):**


Two pushbuttons are provided for applying or resetting the filter criteria.

Under the **Priority:** heading are two checkboxes labeled **Normal** (default) and **Urgent**. You may select one or both of the checkboxes by clicking on them with the left mouse button. Clicking again on a checkbox that has been selected, de-selects that checkbox. Urgent priority is noted in the **All Active** table by a ! in the ! column.

Choices available under the **Effectivity:** heading further limit your search to OCRs that are **Permanent for this MOP** (default), **Permanent for future MOPs**, or **Temporary**. A user may select any combination of the checkboxes by clicking on them with the left mouse button. Clicking again on a checkbox that has been selected, de-selects that checkbox.

Under the **Type:** heading are two checkboxes labeled **Standard** (default) and **Follow Up**. You may select one or both of the checkboxes by clicking on them with the left mouse button. Clicking again on a checkbox that has been selected, de-selects that checkbox.

The pull-down option menu for **CM State:** defaults to **All Active** until another selection is made from the drop down list. The drop down list becomes visible by clicking ▼. Items in the drop down list include all Configuration Management (CM) states possible for the processing of an OCR.

The **Originator(s):** text entry field defaults to the current User ID of the user logged into the account. Clicking  (PIMS) **Select Originator(s)** dialog box (see Figure 4-4, (PIMS) Select Originator(s) dialog box).

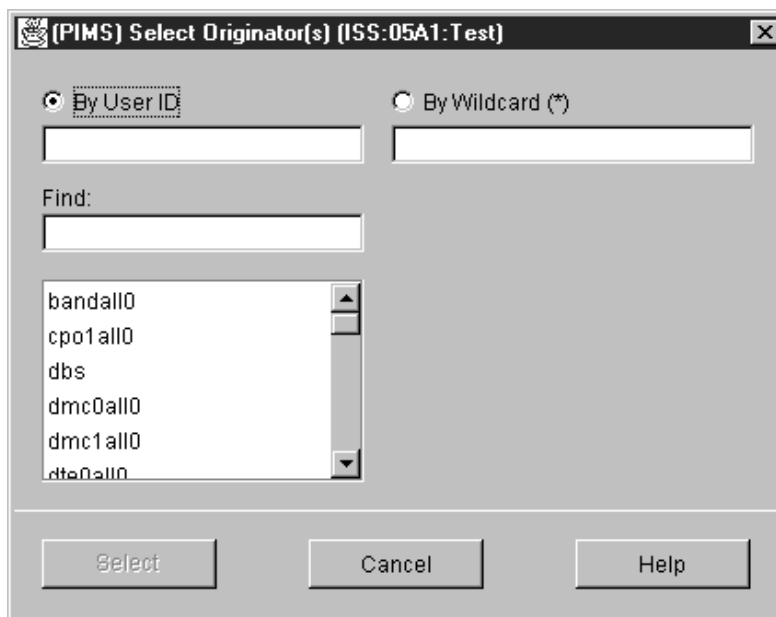



Figure 4-4, (PIMS) Select Originator(s) dialog box

The **(PIMS) Select Originator(s)** dialog box provides filtering by either selecting a user ID (left side of dialog box) or by specifying a wildcard (right side of dialog box).

Selection of the **By User ID** radio button allows you to provide selection criteria by user ID. The display only field below the radio button will contain the results of a find operation involving the **Find:** text entry field and the scrollable list below it.

The **Find:** text entry field is used as an expedient means to search the scrolled list below it, as this list may be quite long. The scrolled list contains all user IDs that are valid for the current MOP. Typing the first character of a user ID in this field will select the first user ID in the list beginning with that character, thus, decreasing the amount of list that you may have to scroll through. The user ID selected in this fashion is displayed in the **By User ID:** text entry field. To further narrow your search you may use additional characters in the **Find:** field. Searches are conducted in alphabetical order; if a user ID is not present for the characters entered, then the next user ID in alphabetical order is selected.

Selection of the **By Wildcard (*)** radio button will result in all OCRs originated by all the user IDs (referenced by the wildcard entered in the text entry field) being displayed in the **All Active** table once the filter has been applied. If an * is entered in the **By Wildcard (*)** text entry field then all OCRs for the current MOP will be displayed in the **All Active** table (this would be limited only by the selection of other filter criteria specified in the **Filter** frame of the **(PIMS) Operations Change Request** main window).

The **All Active** table defaults to display all active OCRs associated with the current user ID of the user logged into the account. Only one row of the table may be selected at a time; selection of any item in the row selects the entire row. Individual table columns may be resized by placing the cursor in the boundary between column headings to obtain a resize tool . Movement to the left or right, decreases or increases the width of the column.

The **All Active** table contains twelve columns labeled as follows:

- **!**
- **Job ID**
- **OCR Title**
- **State**
- **Orig**
- **Fac.**
- **POIC**
- **Act.**
- **Due Date**
- **Due Event**
- **Special Processing**
- **SOF**

The **!** column identifies the priority status of OCRs only. The **!** icon in this column signifies high priority OCRs.











The **Job ID** column displays the OCR number assigned by the system when the OCR form was generated.

The **OCR Title** column contains the title of the OCR.

The **State** column identifies the CM state of the OCR.

The **Orig** (Originator), **Fac.** (Facility Lead), **POIC** (POIC POD), and **Act.** (Actionee) columns contain icons to indicate the status of an OCR within the OCR workflow. Icons applicable to OCRs are contained in the following table:

Table 4-1. OCR Icons

Icon	Description
	Used to represent an OCR that has been Approved.
	Used to represent the location of an OCR.
	Used to represent an OCR that has been Disapproved.
	Used to represent a Follow-Up OCR.
	Used to represent an OCR that has been put on hold.
	Used to represent an OCR that has been Putback.
	Used to represent an OCR that has been Released.
	Used to represent a Standard OCR.
	Used to represent an OCR that has been Submitted.
	Used to represent an OCR that has been Withdrawn.

Help: See, “Appendix B Folder and Document Types” for a complete cross-reference list of icons and their corresponding descriptions.

The **Due Date** column identifies the date that the OCR action must be completed by. The **Due Date** is displayed in Greenwich Mean Time (GMT) with a format of (YYYY DDD:HH:MM:SS).

The **Due Event** column identifies the corresponding event by which the OCR action must be completed. This column will reflect the entry made in the **Due Event** field on the OCR.

The **Special Processing** column indicates if any special processing is required in the completion of the job action described by the OCR.

A check mark in the **SOF** column indicates that the OCR contains Safety of Flight sensitive issues and must be reviewed by the SOF Reviewer.

New OCR...

Selecting the **New OCR...** menu item from the **File** menu of the **(PIMS) Operations Change Request** main window invokes the **(PIMS) New OCR** dialog box (see Figure 4-5, (PIMS) New OCR dialog box). Any authorized user may create a new OCR at any time. No CM privileges are required. When the **(PIMS) New OCR** dialog box is invoked, an OCR number is generated automatically and assigned to the new OCR.

Prior to the **(PIMS) New OCR** dialog box being invoked, you are presented with a query concerning your intent to open a new OCR. OCRs are configuration managed documents, and as such they cannot be deleted if opened unnecessarily; they may be withdrawn, but a record of the withdrawal is still maintained in the PIMS database.

The **(PIMS) New OCR** dialog box consists of radio buttons, text entry fields, a tabbed area, and a control panel. The configuration of the tabbed area dynamically changes depending on which tab is selected. Tab selection is accomplished by clicking on the desired tab. The dialog box common elements and individual tabbed areas will be discussed in the following sections.

(PIMS) New OCR (ISS:05A1:Test)

Job ID: dte0all000030 Priority: ☒ Normal Special Processing: ☐ Safety Of Flight
☐ Urgent ☐ Medically Sensitive
☐ Proprietary Sensitive

Title:

OCR | CM Log | Resource Impacts | Reviewers

Originator: dte0all0 Due Event:

Type: ☒ Standard Earliest Date: : : :
☐ Follow Up Desired Date: : : :
Latest Date: : : :

Effectivity: ☒ Permanent for this MOP
☐ Permanent for future MOPs
☐ Temporary

State: Development

Description Of Change:

Reason For Change:

Figure 4-5, (PIMS) New OCR dialog box

Common Elements

The radio buttons and text entry fields at the top of the screen and the control panel at the bottom of the screen remain unchanged when different tabs are selected. The **(PIMS) New OCR** dialog box is initialized with the new **Job ID** (OCR number) automatically assigned.


The **Job ID**: consists of the user ID and next sequential OCR number generated by Change Request Configuration Management (CRCM).

The **Priority**: radio button selections are **Normal** (default) or **Urgent** indicating the priority level of the OCR.

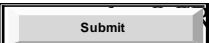
The **Special Processing:** radio buttons include:

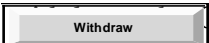
- **Safety of Flight**
- **Medically Sensitive**
- **Proprietary Sensitive**

The **Title:** text entry field is an editable text field in which you may enter up to 100 characters.

Selecting  to the PIMS database, creates a task on the **To Do List**, and closes the **(PIMS) New OCR** dialog box.

Note: In order to access a saved OCR, the initiator (or anyone with the same user ID) must select the OCR from the **To Do List** main window where the OCR will be listed as being in the development state.

Selecting  from the Development state to the Submitted state. Once an OCR has been submitted, it can no longer be edited (edits can only occur in the Development state). It would be advisable to consider and ensure the accuracy and completeness of the OCR before taking the action to submit it.

Selecting  OCR from further processing. Withdrawing an OCR is not synonymous with deleting it. When an OCR is withdrawn, it is removed from further processing and is considered to be in a Closed Out state, but it is still maintained in the PIMS database.

OCR Tab

The OCR Tab is initially visible when the **(PIMS) New OCR** dialog box is invoked. The OCR Tab provides the means to enter general information concerning the OCR (see Figure 4-5, **(PIMS) New OCR** dialog box, OCR tab). Information is presented through two groups of radio buttons and numerous text entry fields.

The **Originator:** label is set to the user ID of the user.

The OCR **Type:** is denoted by radio button selection of either **Standard** (default) or **Follow Up**.


The **Effectivity:** radio buttons default to **Permanent for this MOP**. Other selections include **Permanent for future MOPs** and **Temporary**.


The **State:** label is set to **Development**.


The **Description of Change:** text entry field is initially blank and is used to record any explanatory remarks that you feel are necessary concerning the OCR.

The **Reason for Change:** text entry field is initially blank and is used to provide justification for the OCR.

The **Due Event:** text entry field is initially blank and is used to indicate an operational event or milestone associated with the initialization of the action described by this OCR.

The **Earliest Date:** text entry fields represent the earliest first opportunity time for the action(s) described in the OCR to take place while maintaining the intent of the OCR. Clicking  a pulldown option menu for selecting the year with the remaining text entry fields representing the Julian date, hour, minutes, and seconds (DDD:HH:MM:SS).

The **Desired Date:** text entry fields represent the desired time for the action(s) described in the OCR to take place. Clicking  a pulldown option menu for selecting the year with the remaining text entry fields representing the Julian date, hour, minutes, and seconds (DDD:HH:MM:SS).

The **Latest Date:** text entry fields represent the last opportunity time for the action(s) described in the OCR to take place while maintaining the intent of the OCR. Clicking  provides a pulldown option menu for selecting the year with the remaining text entry fields representing the Julian date, hour, minutes, and seconds (DDD:HH:MM:SS).

Note: The **Earliest Date:**, **Desired Date:**, and **Latest Date:** entries are functionally independent of each other; a user may specify one, none, or all three times depending on operational requirements.

CM Log Tab

The **CM Log** tab (see Figure 4-6, CM Log tab) contains a configuration management history, in tabular form, for the OCR. The table consists of six columns labeled as follows:

- **Task**
- **Action**
- **User ID**
- **Notes**
- **State**
- **CM Date**

Note: The columns displayed in Figure 4-6 have been resized so that all columns could be displayed in this view, otherwise, a horizontal scroll bar is provided to access the information in all columns.



Figure 4-6, CM Log tab

Each row in the table represents an individual accession in the OCR workflow. For a new OCR the table will contain a single entry representing the development of the OCR.

The **Task** column represents the job assignment, in concise, descriptive terms for the specified user ID to accomplish. For a new OCR, the task is simply to “Develop OCR”.

The **Action** column defines the workflow action accomplished when the **Task** is completed. For a new OCR entries could be Submit or Withdraw.

The **User ID** column identifies the entity to whom the task is assigned and is responsible for it’s completion.

A check mark in the **Notes** column indicates that notes relating to the OCR were included by the actionee. Any notes will be contained in the **Notes** frame directly below the **CM Log** table when a table row is selected.

The **State** column shows the current CM state for the OCR. In the case of a new OCR this entry will be **Development**.

The **CM Date** column indicates the date and time when a change of state occurred due to a workflow **Action**. A new OCR, under development will not display a date until the OCR is submitted (change of state). The date is displayed in a YYYY:DDD:HH:MM:SS format.

The **Notes** frame contains any remarks that the actionee considered to be relative. Again, the **Notes** frame will not be displayed until a **CM Log** table row has been selected.

Resource Impacts Tab

As it's name implies, the **Resource Impacts** tab indicates which POIC resources will be affected by the implementation of this OCR (see Figure 4-7, Resource Impacts tab). This tab consists of five user-editable frames, labeled as follows:

- **Activity/Sequence**
- **Manual Procedures**
- **Commanding**
- **Downlink Data**
- **File Uplink Requests (to PL MDM)**

The screenshot shows a software interface with four tabs: OCR, CM Log, Resource Impacts (selected), and Reviewers. The Resource Impacts tab contains five main sections:

- Activity/Sequence:** Includes a checkbox for "Requirements in iURC" and text input fields for Activity Name, Sequence Name, Activity Group, Sequence Group, and User Group.
- Manual Procedures:** Includes text input fields for Title, Number, and Filename, and checkboxes for User Validation, POIC Verification(Standards), and POIC Verification(Non Interference).
- Commanding:** Includes checkboxes for Single C..., Groups, Hazardous, and OIU.
- Downlink Data:** Includes radio button options for Low Rate(<100Kbps), Medium Rate(<4Mbps), High Rate(<50Mbps), and Video.
- File Uplink Request (to PL MDM):** Includes checkboxes for Payload Data Set and Timeline Automated Procedure, a time selection dropdown (None) followed by four empty input boxes for HH:MM:SS, and text input fields for File Size and File Name.

Figure 4-7, Resource Impacts tab

All the frames and text entry fields that comprise the **Resource Impacts** tab are initially blank for a new OCR but are all editable by the user.

The **Activity/Sequence** frame contains a **Requirements in iURC** checkbox, which (when selected) indicates that the interim User Requirements Collection is associated with this OCR. The interim User Requirements Collection is a tool used by the Payload Planning System (PPS) to collect payload planning requirements.

Text entry fields are provided to further specify these requirements by:

- **Activity Name:**
- **Sequence Name:**
- **Activity Group:**
- **Sequence Group:**
- **User Group:**

The **Manual Procedures** frame is used to specify any manual procedures that may be influenced by the implementation of this OCR.

Text entry fields are provided to define the **Title:**, **Number:**, and **Filename:** of the manual procedure.

Checkboxes are provided to specify if any validation or verification is to occur. These checkboxes are labeled:

- **User Validation**
- **POIC Verification (Standards)**
- **POIC Verification (Non Interference)**

The **Commanding** frame is used to enter any requirements for commanding and contains four checkboxes labeled:


- **Single Commands**
- **Groups**
- **Hazardous**
- **OIU (Orbiter Interface Unit)**

The **Downlink Data** frame provides selection of downlink data type through four radio buttons labeled:

- **Low Rate(<100Kbps)**
- **Medium Rate(<4Mbps)**
- **High Rate(<50Mbps)**
- **Video**

The **File Uplink Request (to PL MDM)** frame is used to specify the file type, on-board time and file specifics for any files that will be uplinked.

Two checkboxes are provided to indicate whether the file is a **Payload Data Set** or a **Timeline Automated Procedure**.

The **Time Needed On-Board:** text entry fields are used to record the time when the file will be used for its scheduled activity. Clicking **None**  a pull-down menu for selecting the year with the remaining text entry fields representing the Julian date, hour, minutes, and seconds (DDD:HH:MM:SS).

The **File Size:** text entry field is used to specify the size of the file to be uplinked in bytes.

The **File Name:** text entry field is used to identify the name of the file to be uplinked.

Reviewers Tab

The **Reviewers** tab for a new OCR, in the development state, will contain only noneditable information concerning the safety of flight reviewer (see Figure 4-8, Reviewers tab). The safety of flight reviewer is the only reviewer that can be affected by the OCR developer by selecting the **Safety Of Flight** checkbox under **Special Processing:**. If the **Safety Of Flight** checkbox is selected, the reviewer's user ID will appear on the tab vice **None**.



Figure 4-8, Reviewers tab

View...

Selecting the **View...** menu item from the **File** menu of the **(PIMS) Operations Change Request** main window invokes the **(PIMS) View OCR** dialog box (see Figure 4-9, (PIMS) View OCR dialog box). Any authorized user may select and view an OCR at any time from the **(PIMS) Operations Change Request** main window.

The **(PIMS) View OCR** dialog box is a view only screen and is not editable by the user. The configuration of the tabbed area dynamically changes depending on which tab is selected. Tab selection is accomplished by clicking on the desired tab. The dialog box common elements and individual tabbed areas will be discussed in the following sections.



Figure 4-9, (PIMS) View OCR dialog box

Common Elements

The view only fields at the top of the screen and the control panel at the bottom of the screen remain unchanged when different tabs are selected.

Information at the top of the screen represents attributes of the OCR selected from the **(PIMS) Operations Change Request** main window. The information presented is organized under the following headings:

- **Job ID:**
- **Title:**
- **Hold:**
- **Priority:**
- **Special Processing:**

Hold: information (**Yes/No**) does not originate from information within the OCR. Instead, it reflects actions of either the approver or facility lead taken in the To Do List, Complete Task application.

OCR Tab

The **OCR** tab is initially visible when the **(PIMS) View OCR** dialog box is invoked (see Figure 4-9, (PIMS) View OCR dialog box). The **OCR** tab provides the means to view general information concerning the OCR.

The **Originator:** label displays the user ID of the originator.

The **Type:** is denoted as being either **Standard** or **Follow Up**.

The **Effectivity:** field may be set to one of the following:

- **Permanent for this MOP**
- **Permanent for future MOPs**
- **Temporary**

The **State:** label will reflect the current CM state of the OCR.

The **Description Of Change:** field will contain any explanatory remarks that the user felt were necessary concerning the OCR.

The **Reason For Change:** field provides any justification for the OCR.

The **Due Event:** field is used to indicate an operational event or milestone associated with the initialization of the action described by this OCR.

The **Earliest Date:** display only fields represent the earliest “first opportunity” time for the action(s) described in the OCR to take place while maintaining the intent of the OCR. The date is displayed as Year Julian date:hour:min:sec (YYYY DDD:HH:MM:SS).

The **Desired Date:** fields represent the desired time for the action(s) described in the OCR to take place. The date is displayed as Year Julian date:hour:min:sec (YYYY DDD:HH:MM:SS).

The **Latest Date:** display only fields represent the “last opportunity time” for the action(s) described in the OCR to take place while maintaining the intent of the OCR. The date is displayed as Year Julian date:hour:min:sec (YYYY DDD:HH:MM:SS).

CM Log Tab

The **CM Log** tab contains a CM history, in tabular form, for the OCR (see Figure 4-10, CM Log tab). The table consists of six columns labeled as follows:

- **Task**
- **Action**
- **User ID**
- **Notes**
- **State**
- **CM Date**

Note: The columns displayed in Figure 4-10 have been resized so that all columns could be displayed in this view, otherwise, a horizontal scroll bar is provided to access all information in all columns.



Figure 4-10, CM Log tab

Each row in the table represents an individual accession in the OCR workflow.

The **Task** column represents the job assignment, in concise, descriptive terms for the specified User ID to accomplish. For a new OCR, the task is simply to “Develop OCR”.

The **Action** column defines the workflow action accomplished when the **Task** is completed. For a new OCR entries could be **Submit** or **Withdraw**.

The **User ID** column identifies the entity to whom the task is assigned and is responsible for it's completion.

A check mark in the **Notes** column indicates that notes relating to the OCR were included by the actionee. Any notes will be contained in the **Notes** frame directly below the **CM Log** table when a table row is selected.

The **State** column shows the current CM state for the OCR. In the case of a new OCR this entry will be **Development**.

The **CM Date** column indicates the date and time when a change of state occurred due to a workflow **Action**. The date is displayed in a YYYY DDD:HH:MM:SS format.

The **Notes** frame contains any remarks that the actionee considered to be relative. Again, the **Notes** frame will not be displayed until a **CM Log** table row has been selected.

Resource Impacts Tab

As it's name implies, the **Resource Impacts** tab indicates which POIC resources will be affected by the implementation of this OCR (see Figure 4-11, Resource Impacts tab).



Figure 4-11, Resource Impacts tab

This tab consists of five view only frames, labeled as follows:

- **Activity/Sequence**
- **Manual Procedures**
- **Commanding**
- **Downlink Data**
- **File Uplink Requests (to PL MDM)**

The **Activity/Sequence** frame contains a **Requirements in iURC** label, which indicates that the interim User Requirements Collection is associated with this OCR. The interim User Requirements Collection is a tool used by the Payload Planning System (PPS) to collect payload planning requirements.

View only fields are provided to further specify these requirements by:

- **Activity Name:**
- **Sequence Name:**
- **Activity Group:**
- **Sequence Group:**
- **User Group:**

The **Manual Procedures** frame is used to specify any manual procedures that may be influenced by the implementation of this OCR. Entries are provided to define the **Title:**, **Number:**, and **Filename:** of the manual procedure.

Yes/No entries are provided to specify if any validation or verification is to occur for the following:

- **User Validation:**
- **POIC Verification (Standards):**
- **POIC Verification (Non Interference):**

The **Commanding** frame is used to enter any requirements for commanding and provides **Yes/No** entries for the following types of commands:

- **Single Commands:**
- **Groups:**
- **Hazardous:**
- **OIU:** (Orbiter Interface Unit)

The **Downlink Data** frame identifies the downlink data type. Data types that may appear in this frame are:

- **Low Rate(<100Kbps)**
- **Medium Rate(<4Mbps)**
- **High Rate(<50Mbps)**
- **Video**

The **File Uplink Request (to PL MDM)** frame is used to specify the file type, on-board time and file specifics for any files that will be uplinked.

Yes/No entries are provided to indicate whether the file is a **Payload Data Set:** or a **Timeline Automated Procedure:**.

The **Time Needed On-Board:** field displays the time when the file will be used for its scheduled activity.

The **File Size:** field is used to specify the size of the file to be uplinked in bytes.

The **File Name:** field is used to identify the name of the file to be uplinked.

Reviewers Tab

The **Reviewers** tab identifies the User IDs within each tier that are assigned to review the OCR (see Figure 4-12, Reviewers tab).



Figure 4-12, Reviewers tab

The **Reviewers** tab contains four frames labeled as follows:

- **Facility Reviewer(s)**
- **POIC Reviewer(s)**
- **Safety Of Flight Reviewer**
- **PCC Reviewer(s)**

The **Safety of Flight Reviewer** frame contains view only information identifying the user ID of the safety of flight reviewer. If safety of flight is not reviewable for this OCR, then **None** will appear on the tab.

All of the other frames that comprise the tabbed area consist of tables identifying the **User ID**, **Response**, and the **Date**.

The **User ID** column identifies the user IDs assigned by the approver to review the OCR.

The **Response** column displays the reviewer's action in response to the OCR. Responses may be either **Approve** or **Dissapprove**.

The **Date** column indicates when the reviewer either approved or disapproved the OCR. The date is displayed in a YYYY DDD:HH:MM:SS format.

Summary

This module has introduced the PIMS OCR application. Main window nomenclature, 3-tier architecture, and the OCR workflow were discussed and demonstrated.

With the conclusion of this module you should be able to:

- understand main window entries and menu options
- create a new OCR
- view an existing OCR

Appendix A

PIMS Account Privileges

This table lists the privileges available to PIMS users along with its description. You must specify which privileges you will need on an Account Request Form.

Table A-1, PIMS Account Privileges

PIMS Access	Launchpad access to PIMS functions including: 1. Action Request 2. Documents 3. Operations Change Request 4. Timeliner 5. To Do List 6. User Information 7. Bulletin Board
<i>PIMS Bulletin Board Manager</i>	PIMS internal capability to designate Bulletin Board Manager.
<i>PIMS HOSC Drop Box Planning Access</i>	PIMS internal capability to allow access to the HOSC Drop Box Planning Partition.
<i>PIMS HOSC Drop Box Operational Access</i>	PIMS internal capability to allow access to the HOSC Drop Box General Partition.
<i>PIMS Transfer Command File</i>	PIMS internal capability to allow access to the HOSC Drop Box Command Partition for Command File Transfer.
<i>PIMS OSTP Access</i>	PIMS internal capability to allow access to the HOSC Drop Box for storage for OSTP.
<i>PIMS Security Directory Access</i>	PIMS internal capability to allow access to the HOSC Drop Box Security Directory.
<i>PIMS POIC Lead Approver</i>	PIMS internal capability to designate POIC Lead Approver
<i>PIMS POIC Member</i>	PIMS internal capability to designate POIC (Payload Operations Integration Center) Member
<i>PIMS SOF Reviewer</i>	PIMS internal capability to designate Safety of Flight Reviewer.
<i>PIMS US PCC Lead Approver</i>	PIMS internal capability to designate U.S. PCC Lead Approver.
<i>PIMS US PCC Member</i>	PIMS internal capability to designate U.S. PCC (Partner Control Center) Member.

<i>PIMS RSA PCC Lead Approver</i>	PIMS internal capability to designate RSA PCC Lead Approver.
<i>PIMS NASDA PCC Lead Approver</i>	Pims internal capability to designate NASDA PCC Lead Approver.
<i>PIMS ESA PCC Lead Approver</i>	PIMS internal capability to designate ESA PCC Lead Approver
<i>PIMS Facility Lead Approver</i>	PIMS internal capability to designate Facility Lead Approver.
<i>PIMS Facility Member</i>	PIMS internal capability to designate Facility Team Member.
<i>PIMS Experiment or Commercial Payload Member</i>	PIMS internal capability to designate Experiment or Commercial Payload Member.

Appendix B

Folder and Document Types

The following table defines the folder types available in the Documents application.













Table B-1, Folder Types
















Folder Type	Description	Document Class(es)
Anomaly Logs	Contains a history of actions related to problems associated with on-board objects. Provides a running dialog of the problem that occurred. Describes who were the decision makers during the remedy of the problem along with their decisions and why they were made.	Anomaly Log
Automated Procedures	Includes procedures that are automated and their associated TimeLiner Compiler products. An auto procedure is a group of sequences and subsequences in a single coded file that are treated as a unit.	Automated Procedure
Crew Messages	Includes change message template files used for documenting operational changes to crew procedures. These change files are prepared for onboard viewing.	Crew Message
Crew Procedures	Includes all non-automated crew procedures and their associated Change Messages.	Crew Procedure
Downlinked Files	Includes downlinked files and placeholders for files that are registered but not yet downlinked.	General
Miscellaneous	Includes miscellaneous documents that everyone is allowed to access.	General
OCMS	Contains OCMS documents including: TimeLiner Compiler Listings, OCMS Reference File, Directory List File, and Onboard File List.	General
















Personal	Includes any type of document that only the originator can view and access.	All classes (Anomaly Log, Automated Procedure, Crew Message, Crew Procedure, General, Shift Report)
Shift Reports	Organized by mission teams with one mission shift report per mission team. Initially the mission shift report will be blank. At the end of the mission, it will contain all team compiled shift report book files. The team lead will gather all individual position shift reports into one team shift report book file prior to the end of a shift.	Shift Report

The following table provides a cross-reference for the various icons used within PIMS and their corresponding descriptions.

Table B-2, Icons

Icon	Description
	Used to represent an Adobe Acrobat file.
	Used to represent a closed Anomaly Log document.
	Used to represent an open Anomaly Log document.
	Used to represent an Applix file.
ASCII	Used to represent an ASCII text file.
	Used to represent an audio file.
	Used to represent a closed Automated Procedures document.
	Used to represent an open Automated Procedures document.
BIN	Used to represent a binary file.
	Used to signify file or document characteristics.
	Used to represent a closed Crew Messages document.
	Used to represent an open Crew Messages document.
	Used to represent a closed Crew Procedures document.
	Used to represent an open Crew Procedures document.

Icon	Description
	Used to represent a Microsoft Excel file.
	Used to represent High Priority items.
	Used to represent a closed folder.
	Used to represent an open folder.
	Used to represent a FrameMaker file.
	Used to represent a closed General document.
	Used to represent an open General document.
<u>HTML</u>	Used to represent an HTML file.
	Used to represent an image file.
	Used to demonstrate object movement on buttons.
	Used to represent video files.
	Used to represent a task that is late and not a high priority.
	Used to represent an OCR that has been Approved.
	Used to represent the location of an OCR.
	Used to represent an OCR that has been Disapproved.
	Used to represent a Follow-Up OCR.

Icon	Description
	Used to represent an OCR that has been put on hold.
	Used to represent an OCR that has been Putback.
	Used to represent an OCR that has been Released.
	Used to represent a Standard OCR.
	Used to represent an OCR that has been Submitted.
	Used to represent an OCR that has been Withdrawn.
	Used to represent a closed Payload Planning document.
	Used to represent an open Payload Planning document.
	Used to represent a file of unknown type.
	Used to demonstrate object movement on buttons.
	Used to represent a closed Shift Reports document.
	Used to represent an open Shift Reports document.
	Used to represent a task that is late and high priority.
	Used to represent a Microsoft Word file.
	Used to represent a file of zip format.

Appendix C

Workflow Diagrams

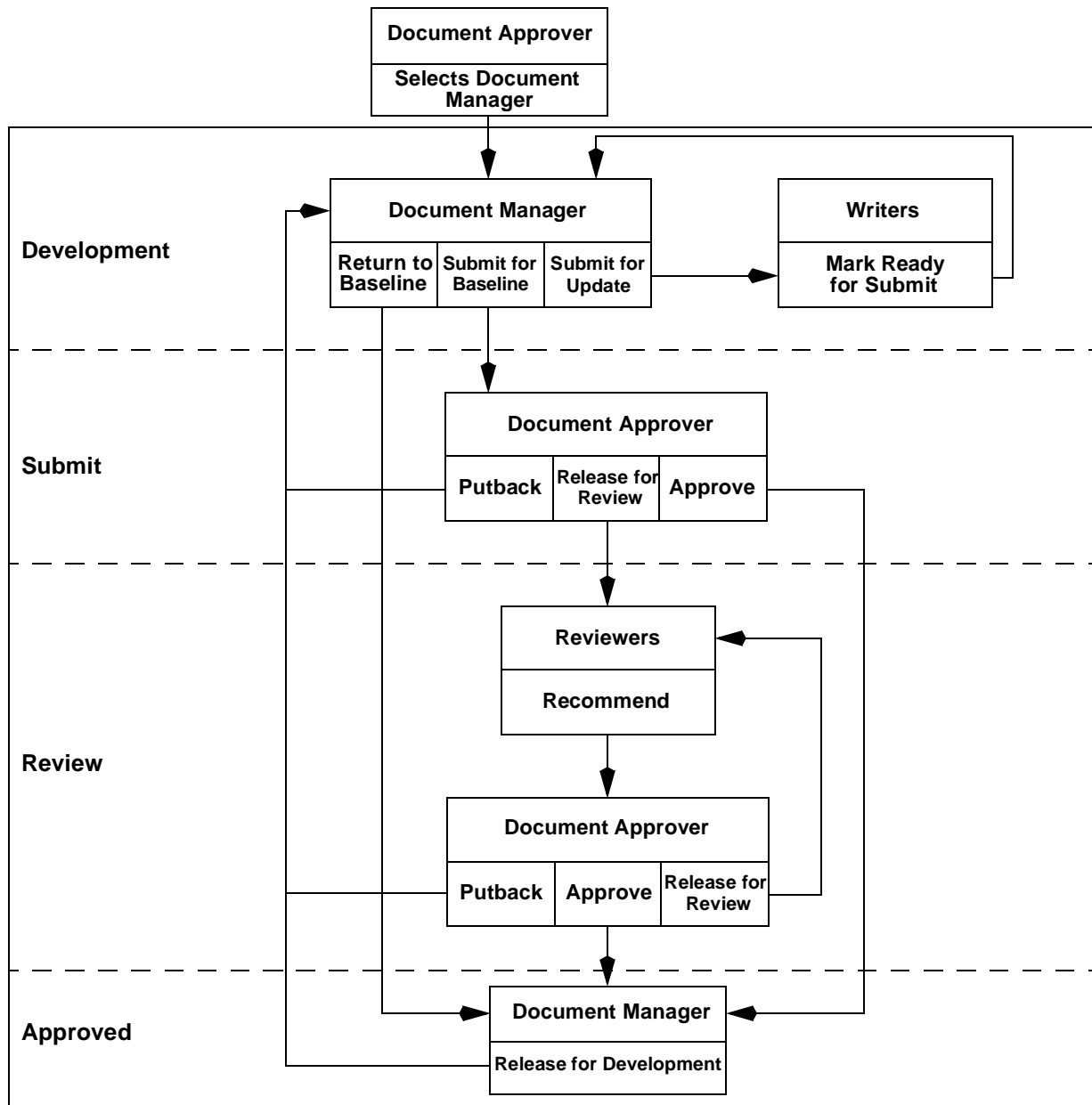


Figure C-1, Document management workflow diagram

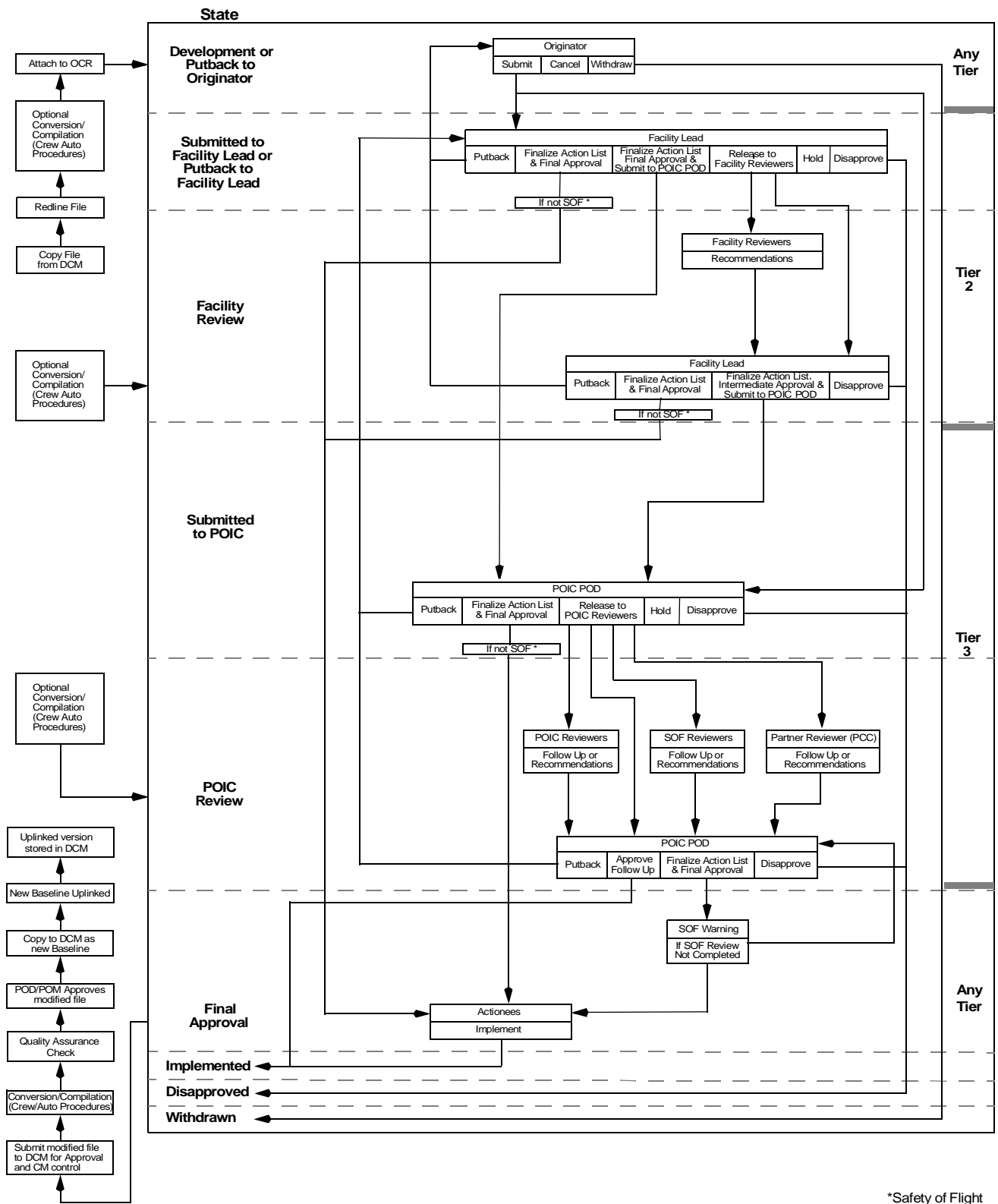


Figure C-2, OCR workflow diagram

Table C-1, PIMS messaging matrix for message handler/e-mail

Document Event	Document Role					
Document CM Actions:	Originator	Writer	Reviewers	Manager	Approver	FYI List
Writer: mark ready to submit (to Manager)				X		
Manager: submit for update (to Writer)		X				
Manager: submit for approved (to approver)		X			X	
Manager: return to approved		X	X		X	X
Manager: release for development		X			X	X
Approver: putback (to manager)		X	X	X		
Approver: release for review (to reviewers)		X	X	X		X
Approver: approve/disapprove		X	X	X	X	X
Reviewer: store markup/comments		X	X	X	X	
Special Cases:						
Approver: change approver				X	X (Note #1)	
Approver: change manager				X (Note #2)		

Notes:

1. New approver is notified
2. Old and new managers are notified

Table C-2, To Do List task/state values

Task/State	Available Values
Task	Develop OCR
	Perform Facility Lead Screening
	Perform Facility Member Review
	Provide Facility Lead Approval
	Provide PCC Lead Approval
	Perform POIC POD Lead Screening
	Perform POIC Member Review
	Provide POIC POD Lead Approval
	Perform Actionee Implementation
	Modify OCR
	Start CM Workflow
	Prepare Document and Submit for Baseline
	Provide Document Approval
	Provide Document Approval for Reviewed Document
	Review Document Modifications and Submit for Baseline
	Perform Writer Edit
State (Documents)	Development
	Submit
	Review
	Approved
State (OCR)	Development
	Putback to Originator
	Submitted to Facility Lead
	Putback to Facility Lead
State (OCR)	Facility Review
	Submitted to POIC
	POIC Review
	Final Approval

Appendix D

Abbreviations and Acronym List

A

a.k.a.	also known as
A/G	Air-to-Ground
A/M	Automatic/Manual
ACBSP	Assembly Contingency Baseband Signal Processor
ADQ	Average Data Quality
ADR	Achievable Data Rate
ADS	Audio Distribution Subsystem
AIS	Automated Information Security
AIT	Analysis Integration Team
AM	Amplitude Modulation
ANSI	American National Standards Institute
AOS	Acquisition of Signal
API	Application Programming Interface
APID	Application Process Identifier
	Application Process Interface Definition
APM	Attached Pressurized Module
APP	Approved
APT	Active Process Table
AR	Action Request
ASCII	American Standard Code for Information Interchange

ASCR	Assured Safe Crew Return
ASI	Agencia Spatiale Italiano
AST	Active Server Table
AT	Address Translation
ATM	Asynchronous Transfer Mode
ATT	Attitude

B

B&D	Boot & Diagnostics
BCD	Binary Coded Decimal
BER	Bit-Error Rate
BFS	Backup Flight System
BG	Bit-contiguous Group
BIA	Bus Interface Adapter
BIT	Built-in Test
BPDU	Bitstream Protocol Data Unit
BPSK	Binary Phase-Shift-Key
BRT	BIT Response Table
BSP	Baseband Signal Processor
BST	BIT Summary Table

C

C&C	Command and Control
C&DH	Command and Data Handling

C&T	Communications and Tracking
C&TS	Communications and Tracking System
C&W	Caution and Warning
C	Counter-dependent
C	C Programming Language
CADU	Channel Access Data Unit
CAM	Centrifuge Accomodations Module
CAP	Command Acceptance Pattern
CAR	Command Acceptance Response
CB	Control Bus
CCA	Canadian Space Agency
CCB	Configuration Control Board
CCBD	Configuration Control Board Directive
CCC	Control Center Complex
CCIR	International Radio Consultative Committee
CCP	Central Command Processor
CCR	Configuration Change Request
CCS	Command and Control Software
CCSDS	Consultative Committee for Space Data Systems
CD	Compact Disk
CDB	Command Database
CDD	Command Data Definition
	Context Dependent Decommutation
CDP	Custom Data Packet

CDQ	Current Data Quality
CEU	Control Electronics Unit
CG	Comp Generation
CGM	Computer Graphics Metafile
CHeCS	Crew Health Care Systems
Chk	Check
CI	Configuration Item
CIC	Crew-Interface Console
CLI	Command Line Interface
CM	Configuration Management
CMATS	Configuration Management Asset Tracking System
CMD	Command
CMIP	Common Management Information Protocol
CMIS	Common Management Information System
CNT	Countdown Time
CO	Comp Operation
COF	Columbus Orbital Facility
COR	Communications Outage Recorder
COTS	Commercial-Off-The-Shelf
CPS	Consolidated Planning System Counts Per Second
CPU	Central Processing Unit
CRC	Circular Redundancy Check Cyclic Redundancy Check
CRR	Command Reaction Response

CS	Communications System
CSA	Canadian Space Agency
CSC	Computer Software Component
CSCI	Computer Software Configuration Item
CSM	Command System Management
CSMAC	Communications Status Monitoring and Control
CSO	Computer Security Official
CSOC	Canadian Space Operations Center
CSS	Central Systems Services
	Command System Services
	Coarse Sun Sensor
CSU	Computer Software Unit
CUI	Common User Interface
CVCDU	Coded Virtual Channel Data Unit
CVT	Common Value Table Current Value Table

D

dB	Decibels
dBW	Decibels referenced to one Watt
DADS	Data Acquisition and Distribution Services
DAE	Data Acquisition and Extraction
DARL	Database Access Routine Library
DB	Database

DBA	Database Administrator
DBCG	Database Coordination Group
DBCR	Database Change Request
DBD	Database Developer
DBMS	Database Management System
DBS	Database Services
DC	Docking Compartment
DCM	Document Configuration Management
DCN	Document Change Notice
DCR	Database Change Request
DCRG	Distributed Control Room Graphics
DCS	Digital Cross-connect Switch
DD AP	Data Distribution Address Processor
DD NS	Data Distribution Network Server
DDQ	Data Data Quality
DDS	Data Distribution System
DDT	Display Data Table
DEMOS	Distributed Earth Model Orbiter Simulation
DES	Data Encryption Standard
DEV	Development
DG	Display Generation
DIST	Distribution
DM	Data Management
DMC	Database Monitor and Control

	Data Management Checklist
DMP	Dump
DoD	Department of Defense
DO	Display Operation
DOCR	Data Operations Control Room
DOSH	Database Operational Support History
DP	Distribute Packet
DPG	Data Packet Generator
DPU	Data Processing Unit
DQ	Data Quality
DQM	Data Quality Monitoring
DRAM	Dynamic Random Access Memory
DRF	Data Requirements Form
DS	Digital Signal
DSM	Docking & Stowage Module
DSID	Data Stream Identifier
DSN	Deep Space Network
DV	Telemetry Display Verify
E	
EC	Experiment Computer
ECOMM	Early Communications (S-band)
ECR	Engineering Change Request
ECWA	Emergency, Caution, Warning, and Advisory

EDDS	Enhanced Data Distribution Switch
EDS	EMCS Data System
EEPROM	Electrically Erasable Programmable Read Only Memory
EF	External Facility
EGP	Exterior Gateway Protocol
EGSE	Experiment Ground Support Equipment
EHS	Enhanced HOSC System
EIA	Electronics Industries Association
ELF	Extremely Low Frequency
ELM	Experiment Logistics Module
E&M	Electrical and Mechanical
EM	Exception Monitor
EMCS	Enhanced Mission Communications System
EML	Extract MSID Library
EMU	Extravehicular Mobility Unit
EPS	Encapsulated Postscript
ERIS	EHS Remote Interface Server
ES	Expected State Experiment Section
ESA/APM	European Space Agency/Attached Pressurized Module
ESA/ATV	European Space Agency/Automated Transfer Vehicle
ESA/ERA	European Space Agency/European Robotic Arm
ESC	Engineering Support Center

EVA	Extravehicular Activity
EVIDS	Enhanced Video Distribution System
EVODS	Enhanced Voice Distribution System
EXPRESS	EXpedite the Processing of Experiments to Space Station
EXT FACIL	External Facility

F

FCB	Functional Cargo Block
FDD	Flight Definition Data
FDDI	Fiber Distributed Data Interface
FDF	Flight Dynamics Facility
FEP	Front-End Processor
FEPSC	Front-End Processor Status and Control
FEW	Front End Workstation
FGMT	File Ground Management Tool
FIFO	First-In-First-Out
FMT	File and Memory Transfer
FOV	Field-of-View
FPTNM	Foot-Pounds to Newton-Meters
FSS	Fine Sun Sensor
FSV	Flight System Verifier
FTAM	File Transfer Access and Management
FTP	File Transfer Protocol

G

GB	Gigabyte
GCID	Ground Correlation Identification
GCMR	Ground Control Message Request
GG	Ground to Ground
GHz	Gigahertz
GKS	Graphics Kerning Standard
GMT	Greenwich Mean Time
GNC	Guidance, Navigation, and Control
GOS-2	Grade of Service
GOSIP	Government Open Systems Interconnection Profile
GP	General Purpose
GPC	General Purpose Computer
GPS	Global Positioning System
GPU	General Purpose Utilities CSCI
GR	Ground Receipt
GRT	Ground Receipt Time
GSE	Ground Support Equipment
GSFC	Goddard Space Flight Center
GTC	Ground Testing and Checkout
GTR	Ground Time Reference
GUI	Graphical User Interface
GW	Gateway CSCI

H

H/W	Hardware
HAMASE	HOSC Automated Model and Screen Editor
HAPS	HOSC Advance Planning System
HASA	HOSC Administrative Software Account
HASS	HOSC Activity Scheduling System
HCR	HOSC Change Request
HDR P/L	High Data Rate Payload
HLOG	HOSC Automated Logging System
HMCG	HOSC Management Coordination Group
HOSC	Huntsville Operations Support Center
HPGL	Hewlett Packard Graphics Language
HPR	HOSC Problem Report
HRDL	High Rate Data Link
HRDS	High Rate Data System
HRF	Human Research Facility
HSM	High Speed Mux
HSMC	Health Status Monitor and Configuration
HSR	HOSC Support Request
HTT	HOSC Training Team
HTTP	Hypertext Transfer Protocol
HTV	HOPE Transfer Vehicle
HUA	HOSC User Assistance
HViDS	HOSC Video Distribution System

HVoDS	HOSC Voice Distribution System
Hz	Hertz (formerly Cycles per Second)
I	
I/O	Input/Output
IAN	Institutional Area Network
ICD	Interface Control Document
ICMP	Internet Control Message Protocol
ICWG	Interface Control Working Group
ID	Identification
IDD	Interface Description Document
IDQ	Instantaneous Data Quality
IEEE	Institute of Electrical and Electronics Engineers
I/F	Interface
IGES	Initial Graphics Exchange Standard
IGSS	International Ground System Specification
IMPS	Interim Mission Planning System
IP	Internet Protocol
IRIG	Interrange Instrumentation Group
IRIG-B	Interrange Instrumentation Group, Standard B
ISCM	Integrated Support Control and Monitoring
ISDN	Integrated Services Digital Network
ISL	Integrated Signal List
ISO	International Organization for Standardization

ISPR	International Standard Payload Rack
ISS	International Space Station
ISSCB	International Space Station Configuration Board
IST	Integrated Support Team
ITS	Integrated Truss Segment

J

JCP	JEM Control Processor
JDK	Java Development Kit
JEM	Japanese Experiment Module
JSC	Johnson Space Center

K

kbps	kilobits per second
kHz	kilohertz
KERMIT	The name of a file transfer protocol
KMTS-A	Kennedy/Marshall Transmission System side A
KMTS-B	Kennedy/Marshall Transmission System side B
KSAF	Ku-band Single Access Forward
KSAR	Ku-band Single Access Return
KSC	Kennedy Space Center

L

LAN	Local Area Network
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LDP	Logical Data Path Logical Destination Processor
LDP_ID	Logical Data Path Identifier
LHC	Local Holding Clock
LES	Limit/Expected State Sensing
LOR	Line Outage Recorder
LORSP	Line Outage Recording, Storage, Playback Service
LOS	Loss of Signal
LOV	List of Values
LPS	Launch Processing System
LSB	Least Significant Bit
LSM	Legal Station Mode, Life Support Module Low Speed Mux
LSW	Least Significant Word
LTE	Local Table Edit
LTG	Local Table Generation
LTO	Local Table Operation

M

M	Multi-syllable
Mbps	Megabits per second
M _{max}	Maximum Allowable Downtime
MAS	Media Archive System
MB	Megabyte

MBF	Mission Build Facility
MCC	Mission Control Center
MCC-H	Mission Control Center - Houston
MCC-M	Mission Control Center - Moscow
MCCU	Mission Control Center Upgrade
MDB	Mission Database
MDM	Multiplexer/Demultiplexer
MEC	Medical Equipment Computer
MET	Mission Elapsed Time
MF	Maintenance Fixtures
MH	Message Handler
MHz	Megahertz
MIB	Management Information Base
MIC	Media Interface Connector
MIL-STD	Military-Standard
MIPS	Mission Integrated Planning/Replanning System
MLP	Multi-Line Phone
MMC	(APM) Mission Management Computer
MOC	Mission Operations Computer
MOL	Mission Operations Laboratory
MOP	Mission, Operational Support Mode, and Project
MPLM	Mini Pressurized Logistics Module
MPDU	Multiplexed Protocol Data Unit
MPS	Mission Planning System

ms	Milliseconds
MS	Matrix Switch
MSB	Most Significant Bit
MSFC	Marshall Space Flight Center
MSID	Measurement/Stimulus Identifier
MSL	Microgravity Science Laboratory
MSN	Mission Systems
MSO	Marshall Scheduling Office
MSS	Mission Support Services Mobile Servicing System
MSW	Most Significant Word
MTBF	Mean Time Between Failure
MTTR	Mean Time To Restore
MUPS	Momentum Unloading Propulsion System

N

NI-DDS	NASA Communications System I Data Distribution System
NII-DDS	NASA Communications System II Data Distribution System
N	Normal
NASA	National Aeronautics and Space Administration
NASCOM	NASA Communications
NASDA	National Space Development Agency of Japan
NCC	Network Control Center

NCS	Node 1 Control Software
NDE	Non-operational Development Environment
NDL	NRT Data Log
NDL	Near Real-Time Data Logger
NEMS	NASA Equipment Management System
NG	Bit Non-contiguous Group
NGT	NASA Ground Terminal
NI	NASCOM I
NISN	NASA Integrated Services Network
NIST	National Institute of Standards and Technology
NM	Network Management
NMCC	Network Management Control Center
NMS	Network Management System
NPM	Network Performance Monitoring
NPSS	NASA Packet Switching System
NRT	Near Real-Time
NRZ-L	Non-Return to Zero Level
NRZ-M	Non-Return to Zero Mark
NSOC	NASDA Space Operations Center
NSS	Network System Services
NSTS	National Space Transportation System
NTM	Net to Media
NTP	Network Time Protocol
NTSC	National Television Standards Committee

N/W

Network

O

OBT

Onboard Time

OC

Operations Control

OCC

Operations Control Center

OCDB

Operational Command Database

OCMS

Operations Control Mission Software

OCR

Operations Change Request

OD

Operational Downlink

ODA

Office Document Architecture

ODF

Operations Data File

OI

Operational Instrumentation

OIU

Orbiter Interface Unit

OOS

Onboard Operating Summary

Ops

Operations

ORU

Orbital Replacement Unit

OS

Operating System

OSF

Open Software Foundation

OSI

Open System Interconnection

OSTP

Onboard Short Term Plan

OSTPGMT

Onboard Short Term Planning Ground Management Tool

OTE

Operational Test Equipment

OTR

Onboard Time Reference

P

PAP	Payload Activity Plan
PB	Playback
PC	Polynomial Coefficient
PC	Personal Computer
PCAD	Pointing Control and Aspect Determination
PCAP	Payload Crew Activity Plan
PCDB	Project Command Database
PCM	PIMS Configuration Management Pulse Code Modulation
PCTC/UDC	Payload Crew Training Complex/Utilization Development Capability
PDAC	Procedures Development and Control
PDF	Portable Document File
PDI	Payload Data Interleaver
PDL	Payload Data Library
PDRF	Playback Data Request Form
PDSS	Payload Data System Services
PFS	Primary Flight System
PI	Prime Item Principal Investigator
PID	Process Identifier
PIMS	Payload Information Management System
P/L	Payload

PM	Pressurized Module
PMA	Pressurized Mating Adapter
PMCA	Power Management and Control Application
PN	Pseudorandom Noise
POCC	Payload Operations Control Center
POD	Payload Operations Director
POIC	Payload Operations Integration Center
PP	Point Pair
PPS	Payload Planning System
PRT	Packet Routing Table
PS	Parameter Select Pressurized Section
PSCN	Program Support Communications Network
psi	pounds per square inch
PSP	Payload Signal Process
P/SS	PDSS System Support
PSS	Project System Services
PTC	Payload Training Complex
PTDB	Project Telemetry Database
PUB	Publication
PUI	Program Unique Identifier
Q	
QPSK	Quadrature Phase-Shift-Key

R

R	Range-dependent
RAM	Random Access Memory
RCS	Reaction Control System
RCU	Remote Commanding Unit
RDBMS	Relational Database Management System
RDRP	Raw Data Record Playback
ReGIS	Remote Graphics Instruction Set
REL	Released
RFE	Reference File Editor
RFI	Radio Frequency Interference
RGB	Red, Green, and Blue
RID	Review Item Discrepancy
RP	Retrieval Processor
RPM	Rounds per Minute
RPSM	Retrieval Processing Summary Message
RR	Replanning Request
R-S	Reed-Solomon
RS	Recommended Standard
RSA	Russian Space Agency
RSS	Resident Size
RT	Real-time

RT _{max}	Maximum Repair Time
RTAS	Radians to Arcsecs
RTC	RealTime Command
RTD	Radians to Degrees
RTDS	Real-time Data System
RTI	Remote Telephone Interface
RTN	Return to Normal
RTS	Requirements Tracking System
	Remote Tracking Station
RUM	Remote User Machine
RW	Reaction Wheel
S	
S	Super
S/A	Sub/Address
SA	Sub Address Single Access
S&E	Science and Engineering
SC	State Code Station Crew Subsystem Computer
SCG	Special Computation Generation
SCM	Status and Configuration Manager
SCR	Strip Chart Recorder
SDS	Scripts Database Subsystem

SDT	Shuttle Data Tape
SDV	Systems Development and Verification
SEND	KERMIT directive
SER	Scientific, Engineering, and Research Systems
SGI	Silicon Graphics Indy™
	Silicon Graphics Incorporated
SGML	Standard Generalized Markup Language
SL	Spacelab
SM	Service Module System Monitor Store Manager
SMAC	System Monitor and Control
SMCM	System Monitor and Control Configuration Manager
SMTP	Simple Mail Transfer Protocol
SN	Space Network
SNMP	Simple Network Management Protocol
SOA	Science Operations Area
SOD	Shuttle Operational Downlink
SONET	Synchronous Optical Network
SOPG	Science Operation Planning Group
SPL	Scratchpad Line
SQL	Structured Query Language
SRD	Serial Receive Device
SRS	Software Requirements Specification
SS	System Services

SSA	S-band Single Access
SSAF	S-band Single Access Forward
SSAR	S-band Single Access Return
SSCC	Space Station Control Center
SSCS	Space to Space Communications System
SSCT	Send Serial Clock Timing
SSH	Secure Shell
SSGUI	Scripting Services Graphical User Interface
SSL	Secure Socket Layer
SSL3	Secure Socket Layer 3
SSME	Space Shuttle Main Engine
SSOR	Space to Space Orbiter Radio
SSS	Shared System Services
SSSR	Space to Space Station Radio
SSUP	System Services User Profile
STDN	Spaceflight Tracking and Data Network
STS	Space Transportation System
SUB	Submitted
SUT	SMAC User Team
SVF	Software Verification Facility

T

T Typical

TAS Test and Simulation

TBA	To Be Added
TBC	To Be Confirmed
TBD	To Be Determined
TBR	To Be Resolved
TBS	To Be Supplied
TCP/IP	Transmission Control Protocol/Internet Protocol
TDB	Telemetry Database
TDM	Time Division Multiplexer
TDRS	Tracking and Data Relay Satellite
TDRSS	Tracking and Data Relay Satellite System
TDS	Telemetry Database Subsystem
	Time Distribution System
TIFF	Tagged Image Formatted File
TLM	Telemetry
TMS	Transport Management System
TNS	Telemetry and Network Services
TNSDP	Telemetry and Network Services Distribute Packet
TPS	Telemetry Processing Services
TRW	TRW Space Park
TTL	Time To Live
TTY	Teletype
U	
UAS	User Application Software

UDE	User-generated Data Element
UDLT	Universal Data Loop Transceiver
UDN	User Defined Name
UDP	User Diagram Protocol
UDSM	User Data Summary Message
UFT	Unrestricted File Transfer
UGSE	User Ground Support Equipment
UHF	Ultra High Frequency
UI	User Interface
ULC	Unpressurized Logistics Carrier
UOA	User Operations Area
UPAR	User Profile Access Routine
UPD	User Performance Data
URL	Universal Resource Locator
USGS	United States Ground Segments
USOS	United States On-Orbit Segment
UTA	User Telemetry Applications CSCI



V

VAX	Virtual Address Extension
VC	Virtual Channel
VCDU	Virtual Channel Data Unit
VCID	Virtual Channel Identifier
VMS	Virtual Memory System

VT	Video Terminal
VV	Verification and Validation
W	
WCP	Workstation Command Processor
WEX	Workstation Executive
WPL	Word Processing Language
WPSPLUS	Word Processing System PLUS
WSGT	White Sands Ground Terminal
WSC	White Sands Complex
X	
X Window	X Window System
XMODEM	The name of a file transfer protocol
XPDR	Transponder
Z	
ZOE	Zone of Exclusion

Appendix E

Glossary

Accelerator	A sequence of keys that provides immediate access to application functions. For example,  +  Ctrl key + N key to invoke the N ew menu item.
Activation Type	Method used within local table application to activate a group. The defined methods are Time and Control.
Active Window	The workstation window that has input focus and in which keyboard entries impact and may appear. See “Input Focus.”
Analog	A mechanism in which data is represented by continuously variable physical quantities.
Application Main Window	The primary window of a software application.
Application Process Identifier (APID)	The APID is an 11-bit field that is included in Consultative Committee for Space Data Systems (CCSDS) headers. It uniquely identifies the vehicle that created the source packet.
Application Title Bar	The bar at the top of a main window that consists of the window menu button, the title area, and the minimize and maximize buttons.
Apply Pushbutton	A pushbutton that implements any changes made within its dialog box, but leaves the dialog box on the screen so that additional changes can be made. See “OK Pushbutton.”
Approve	In PIMS, this action is taken by a reviewer to signify his/her approval that a document, change request, or data request be placed in the baselined state.
Archived Database	A telemetry database that no longer reflects the current real-time telemetry characteristic information. Only one archive database is available online at a time.
Attributes Defaults Bar	The area below the menu bar on the main window where application Text: , Line: , and Fill: default attributes are set.
Avtec™	A manufacturer of telemetry transmit and receive devices used in the Huntsville Operations Support Center (HOSC) Enhanced HOSC System (EHS) as the primary telemetry processing hardware devices.
Baselined	In PIMS, the final state of the review cycle. When a document, change request, or data request has been approved by all reviewers, the approver may place it in the baselined state.

Baselined Database	Database that reflects the current real-time telemetry or command characteristic information for a particular mission activity. Baselined databases have completed validation.
Bitstream Protocol Data Unit (BPDU)	A protocol data unit of the bitstream function having a format of a header followed by a fixed length block of contiguous bitstream data.
Block	NASA Communications (NASCOM) 4800-bit block format utilized for the transfer of data via the GSFC/MSFC Multiplexer/Demultiplexer (MDM) system.
Calibrated	Three types of calibration exist for telemetry samples: polynomial, point pair interpolation, and state code conversion. If calibration is requested, Telemetry and Network Services (TNS) automatically converts the unprocessed sample and then performs calibration on the sample for that Measurement/Stimulus Identifier (MSID) as defined in the local table.
Cancel Pushbutton	A pushbutton that allows a user to exit a dialog box without implementing any changes.
Cascade Menu	A sub-menu or menu-within-a-menu that appears when you highlight a menu function that has an arrow to the right of its name. Cascade menus are used to group similar functions together beneath the pulldown menu.
Caution	A standard icon used throughout the user guide set to represent destructive actions which could result in loss of data.
Caution Limits	A range defined by a high and low value for an analog MSID in the Telemetry Database (TDB) and Local Table. A color code (yellow) represents values within those ranges in the application.
CCSDS Packet	A source packet comprised of a 6-octet, CCSDS defined primary header followed by an optional secondary header and source data which together may not exceed 65535 octets.
Channel Access Data Unit (CADU)	Protocol data unit used for transmission from the ISS to the PDSS. A CADU consists of a CVCDU that has been prefixed and delimited by a synchronization marker.
Click	The action of pressing and releasing a mouse button. Typically, this is a left mouse button action.
Coded Virtual Channel Data Unit (CVCDU)	A VCDU to which a block of error-correcting Reed Solomon (RS) check symbols has been attached.
Command System Manager	The position in charge of controlling the commanding system utilizing the Command System Management software.
Commercial-Off-The-Shelf (COTS) Software	Software applications that have been purchased from a commercial software vendor as opposed to those that were developed internally.

Computation	A FORTRAN or C program used to manipulate telemetry parameters. These programs are created by the Computation Generation application and are executed in Computation Operation.
Configuration Management (CM) Tools	Institutional applications that allow users to access and perform tasks, such as tracking requirements and equipment, scheduling resources, and logging into automated problem report systems.
Control Indicator	Used to indicate that the group will be activated for limit/expected state (LES) sensing with either the control MSID or a control MSID plus delay time.
Control Panel	The area of a window where application pushbuttons and other graphical components are located.
Converted	The process of translating raw telemetry data into an American National Standards Institute (ANSI) standard data representation so that the sample can be properly interpreted by the machine which processes the data.
Counter-dependent	A parameter whose occurrence in telemetry is dependent on an incrementing or decrementing counter in the data.
Critical Command	A command whose initiation and execution could possibly cause damage to a payload or spacecraft and impair the mission.
Cyclic Redundancy Check	Method for checking the accuracy of a digital transmission over a communications link. The sending computer performs a calculation on the data and appends the resulting value; the receiving computer performs the same calculation and compares its result to the received value.
Database Administrator	An individual who is primarily responsible for managing the RDBMS engine and administering database accounts. He/she also has the privilege to edit restricted database fields in any database, but is normally not recommended to edit data values that drive the telemetry and command processing for the EHS system.
Database Coordination Group	A working group which includes representatives from the appropriate project operations personnel, project source DB developers, MOL DB developers and the HOSC validation team. Review and approve/dissapprove DBCRs, resolve conflicts and evaluate any DB related issues.
Database Developer	An individual that has the privilege to edit restricted fields (e.g., decom, etc.) for both operational and non-operational databases that drive telemetry and command processing for the EHS system.
Dataset	A saved set of a command's modifiable fields used to update a command prior to being transmitted.

Data Stream Identifier (DSID)	A field within a Secondary EHS Protocol Header for PDSS Payload Data used as a unique identifier for the data stream. This bit denotes if the type of data contained therein is CCSDS packet data (0) or BPDU (1).
Delivered Database	A database must be delivered before it can become pre-released. A delivered database has not been validated for operational testing.
Delta Limit	Maximum acceptable difference between consecutive samples of a parameter.
Desktop	The computer monitor backdrop area on which all windows are opened. May also be referred to as workspace.
Development	In PIMS, the first state of the review cycle in which a document, change request or data request is still being written or is being updated.
Direction Keys	A group of computer keyboard arrow keys which allow users to move up, down, left, and right within an application or menus.
Disapprove	In PIMS, the action taken by a reviewer to signify disapproval and recommendation against moving a document, change request or data request into the baselined state.
Discrete Values	Telemetry values that have states (e.g., on or off).
Double-click	The action of pressing and releasing a mouse button twice in rapid succession.
Drag	To press and hold down a mouse button while moving the mouse on the desktop (and the pointer on the screen). Typically, dragging is used while moving and resizing windows.
Drawing Tools Palette	A group of tool buttons that is used to create graphic objects in order to display telemetry data, initiate commands, and start scripts and computations. The palette is located on its own floating dialog box or the application window.
Dump	During periods when communications with the spacecraft are unavailable, data is recorded onboard and played back during the next period when communications resume. This data, as it is being recorded onboard, is encoded with an onboard embedded time and is referred to as dump data. When a near real-time (NRT) request is written specifying that dump data is desired, the onboard embedded time is used to fulfill the request.
Dynamic Objects	Graphical objects that represent updating telemetry data.
Ellipse	A geometric shape which can be created on a display (i.e., a plane of a cone, an oval shape, etc.).
Expected State	Text state code which indicates the nominal value of a parameter.

Expert Mouse Actions	Clicks or double-clicks of mouse buttons which are non-standard and which activate special functions.
Filter	The filter function is used within a dialog box to refine and define subsets of files you want to work with using a string search and wildcard. Characters can be used to implement the filter function.
Fonts	A style of printed text characters.
Graphical User Interface (GUI)	A way of interacting with computers using graphics-oriented software and hardware.
Grayed out	A menu selection item that has been made insensitive, which is visually shown by making the menu text gray rather than black. Items that are grayed out are not currently available.
Greenwich Mean Time (GMT)	The solar time for the meridian passing through Greenwich, England. It is used as a basis for calculating time throughout most of the world. Displayed within the HOSC, it follows the format ddd:hh:mm:ss.
Grid	A pattern of horizontal and vertical lines forming squares of uniform size on a display, used as a reference for locating points.
Group Parameter Composition	Parameter composition where the bits of a parameter are contiguous and a multiple occurrence of that parameter exists as a group of samples.
Groups	MSIDs which have been grouped together, primarily for use with the Exception Monitor (EM) application.
Hazardous Command	A command whose initiation and execution could pose a threat to human life or the entire mission.
Help	A standard icon used throughout the user guide set to indicate that a cross-reference is provided to assist in solving problems or to answer questions.
Huntsville Operations Support Center (HOSC)	A facility located at the Marshall Space Flight Center (MSFC) that provides scientists and engineers the tools necessary for monitoring, commanding, and controlling various elements of space vehicle, payload, and science experiments. Support consists of real-time operations planning and analysis, inter- and intra-center ground operations coordination, facility and data system resource planning and scheduling, data systems monitor and control operations, and data flow coordination.
I-beam Insertion Bar	A graphical image used to represent the insertion point of text in a text entry area which provides a visual cue that text entry is anticipated by the system.

Icon	A graphical representation of an object on the desktop. Objects can be minimized (iconified) to clear a cluttered workspace, and restored (opened), as needed.
Input Focus	A window or window element that is activated and available for subsequent actions. Input focus is usually indicated by highlighting or changing the color of the activated element.
Input Slider	An input object that allows users to change values of pseudo parameters and computational constants assigned to objects. Pseudos can be used in other applications (i.e., scripts, computations, etc.).
Insensitive	An object or area of an application window that does not have input focus.
Integrated Support Team (IST)	Institutional groups at the HOSC responsible for configuring, monitoring, and resolving problems with computer systems and application software.
Launchpad	A floating menu bar that is used to initiate all HOSC software applications.
Legend	A table that labels parameters plotted on a chart or grid.
Limit Delta	Maximum acceptable difference between consecutive samples of a parameter.
Limit/Expected State Sensing (LES)	A configurable option in Display Operation that allows the user to select whether he wants to see limit violation status or not. The incoming data is compared against the Local Table limits.
Limits	Defined ranges for a measurement which are used to indicate off-nominal conditions: Caution High, Caution Low, Warning High, and Warning Low.
Line Plot	A plot that uses lines to represent the relationships among telemetry values.
Local Table	A subset of the TDB stored on a workstation or server used for telemetry processing.
Maximize Button	A control button that is located to the right of the application title bar. When pressed, this button enlarges the application window to its largest state.
Menu Bar	The area at the top of a window that contains the titles of pull-down menus.
Merge	The combining of data from different sources for a specific time slice. During merge, the best (cleanest) data from each source will be used to create a contiguous segment of data for the specified time slice.
Message Area	The part of the application window where system messages/responses are shown.

Message Dialog Box	An area that provides information, gives the current status of data, asks questions, issues warnings, or draws attention to errors.
Mini-Application	A secondary main window activated from within a main window application.
Minimize button	A control button located to the right of the application title bar. When pressed, it iconifies the window.
Mission, Operational Support Mode, and Project (MOP)	A MOP is what delineates one EHS activity from another. MOP information is available in the common configuration file on every node.
Mnemonic	An underlined character on a menu item, that allows users to initiate the item by typing letters on a keyboard. A user-friendly name used to reference a command residing in the command database.
Mode Independent	Mode Independent is used to describe any process that is not dependent on a data mode.
Modifiable Commands	Commands containing at least one data field which can be updated during operational activities prior to their uplink transmission.
Mouse	A pointing device that is used along with a keyboard in point-and-click user interfaces. The mouse used with HOSC workstations contains three mouse buttons. The left mouse button is used to activate and select items on windows. The middle mouse button is used for move functions. The right mouse button is used to access popup menus.
MSID Text Field	An output object for viewing telemetry containing a label for the telemetry parameter, as well as the current value of the parameter displayed in a specified format (i.e., decimal, hex, octal, binary, American Standard Code for Information Interchange (ASCII), etc.).
Multiple Drawing Mode	A mode that allows users to draw multiple objects of the same type.
Native Data Type	Defined in the database and indicates how the MSID data will be interpreted in the HOSC.
Nominal	A color code indicating expected conditions within defined limits of parameters.
Non-Shareable	A flag has been set to prevent other users from retrieving your User-generated Data Element (UDE) from the UDE Database and using it on their local workstations.
Normal	A telemetered parameter that occurs once per packet.
Note	A standard icon used throughout the user guide set to direct your attention to specific items of concern.

OK Pushbutton	A pushbutton that implements any changes specified within a dialog box. The dialog box is dismissed after this pushbutton has been selected.
Option Menu Button	A pushbutton which, when clicked, displays a menu of related options. The selected option is shown as the pushbutton label.
Output Slider	An object that displays telemetry parameters.
Packet	A data unit comprised of octets that a source application generates.
Parameter Composition	Describes how the bits of a parameter can be arranged in a packet for a sample(s) of that parameter.
Pixmap Object	A picture that can be drawn using the pixmap editor or scanned and assigned using the pixmap editor.
Playback	Playback data can originate either internally or from some other facility. Project servers in the HOSC receive Playback telemetry streams from the HOSC Data Distribution System (DDS) and perform the same processing as would be performed on real-time telemetry streams.
Pointer	Sometimes called the mouse cursor, the pointer shows the location of the mouse on the desktop. The pointer's shape depends on its mode. (e.g., on a window frame, the pointer is an arrowhead; while you are waiting for an action to complete, the pointer becomes clock).
Point Pair Calibration	A measurement which is calibrated using a series of linear segments. The linear segments are defined by a pair of points for each segment. Each point consists of a raw count value and a corresponding engineering unit value.
Pointer Shapes	A graphical shape that a pointer assumes in the drawing mode (e.g., cross-hairs, I-beams, hour-glasses, etc.).
Polynomial Coefficient Calibration	A measurement is calibrated using the following polynomial calibration equation: where: eu - engineering units cnts - counts $eu = COEF0 + (cnts1 \times COEF1) + (cnts2 \times COEF2) + (cnts3 \times COEF3) + (cnts4 \times COEF4) + (cnts5 \times COEF5) + (cnts6 \times COEF6) + (cnts7 \times COEF7) + (cnts8 \times COEF8) + (cnts9 \times COEF9).$
Popup Menu	A menu that is invoked when the right mouse button is clicked. Functions available are the most common and vary from application to application.
Predefined Commands	Commands completely defined prior to an operational activity. Predefined commands contain no modifiable data fields.

Pre-released Database	A database that has been validated for operational testing. It is used to validate UDEs (displays, comps, etc.) prior to the baseline release of the database.
Project Telemetry Database	Contained within the Telemetry Database, includes the telemetry definitions needed to drive HOSC telemetry processing for a specific project/mission. The source of the real-time telemetry processing tables found in the Telemetry Local Table identified by a project/mission/revision prefix. Also included are tables to contain user copy data, an error log, and an Initial Load Table.
Protocol	1: Provides the formulas for passing messages, specifies the details of message formats, and describes how to handle error conditions. More importantly, it allows us to discuss communication standards independent of any particular vendor's network hardware. A communication protocol allows one to specify or understand data communication without depending on detailed knowledge of a particular vendor's network hardware. 2: A term referring to the type of source data used in the construction of an EHS packet. EHS Packet Protocols include: "C" - CCSDS packet, "P" - pseudotelemetry packet, "T" - encapsulated TDM packet, "B" - encapsulated block packet, and "D" - TDS packets.
Pseudo MSID/Parameter	A parameter identification (ID) that has been assigned to contain the output from a computation.
Pseudo Packet	A telemetry packet consisting of external pseudo MSIDs. External pseudo MSIDs are generated (either by EHS computations or scripts), packetized and multicast on the project LAN.
Pulldown Menu	A list or menu of possible options that is hidden under a general phrase and invoked by clicking the left mouse button.
Pushbutton	A control that causes an immediate action. To press a pushbutton on the screen, point to it and click the left mouse button.
Radiobuttons	A group of buttons that allows users to make only one selection at a time. Radiobuttons are small diamond-shaped buttons.
Range-dependent	A parameter whose occurrence in telemetry is dependent on the value of a range parameter.
Real-time Data	Real-time data is telemetered to the HOSC and distributed for immediate use. Real-time telemetry data, received into the HOSC system and written to the NRT log, is indexed by its time stamps and other identifying information. When an NRT request is submitted that covers a particular time slice, this indexing information is used to meet that request.

Recall Text	Area within an application that allows users to input up to 256 characters.
Release	In PIMS, an action taken by the manager of a document or request that releases it from the baselined state back into the development state for modifications.
Resize Borders	The area that surrounds the framed area of an application, and is used to change the height or width of the window.
Resize Handles	Up to eight handles surrounding an object that allows users to resize objects, displays, or windows.
Review	In PIMS, the second state of the review cycle in which the document, change request or data request has been written and submitted for review and approval.
Sample Composition	Describes how the samples of a parameter are arranged in a major frame.
Scatter Plot	A plot that uses unconnected dots to represent the relationships among telemetry values.
Scratchpad Line (SPL) Directives	Provides users with the capability to start and stop displays, computations, and scripts. A user may also uplink and modify commands and update pseudo MSIDs through the use of SPL directives.
Script	A file containing a sequence of directives that can be invoked in a single step.
Scroll Bar	A control that allows the contents of a window area to be displayed without resizing a window or list.
Select Button	The mouse button used for most operations. By default the select button is the left mouse button.
Set Pushbutton	A pushbutton that allows a user to implement changes based on selections made within a dialog box. Reacts like the OK pushbutton and closes the dialog box.
Setup Message Area	The dialog box that allows users to change the number of lines displayed within the message area of the application main window.
Shareable	A flag has been set to allow other users to retrieve your UDE from the UDE Database and use it on their local workstation.
Shotgun	Parameter composition when the bits of a parameter are scattered in multiple non-contiguous words of a major frame.
Slider Box	A graphical component of the scroll bar, which is dragged to provide a different view of the same file, list, or text area.
State Code Calibration	A measurement is converted to a text state code.
Static Object	A graphical object that is not receiving telemetry data.
Status Bar	A feature that allows the viewing of application critical configurations within the main window.

Submit	In PIMS, an action taken by the manager of a document, change request, or data request in which the document or request is placed in a state of review and approval and released from development.
Subset	A collection of measurements from the total measurement set that is bounded as an integer number of octets but does not constitute the packet itself. A mini-packet.
Super	A parameter that occurs more than once per packet.
Superseded Database	If a baselined database already exists for a project and mission, before a new baselined database can be released, the current baselined database is designated as superseded.
Switch MSID	A parameter whose value determines which limit or calibration set will be used for the specified MSID.
TDM	Time Division Multiplexed - a technique for transmitting multiple parameters within a single serial bit stream by interleaving them, one after the other.
Time Indicator	Indicates that a group will be activated based on a defined start time and deactivated based on a defined stop time.
Time Plot	A plot against time containing up to four Y-Axis parameters.
Time Reference	A time format that is represented in either GMT or Mission Elapsed Time (MET).
Time Tag	A time reference marking an event. For example, a parameter goes out-of-limits at 230:16:00:00. The time tag for the out-of-limit event is 230:16:00:00.
Tip	A standard icon used within the HOSC user guide set to indicate that suggestions or hints are provided.
Togglebuttons	Small buttons that can be switched "on" or "off." To switch a togglebutton, point to it and click the select button. Black indicates that the desired attribute is in effect or "on."
Tolerance	Number of times the MSID exceeds the limit value before an EM warning message is issued.
Typical	Parameter composition when the bits of a parameter are contiguous.
Unprocessed	Raw telemetry data.
User-generated Data Element (UDE)	A user-generated file. For example, a display, script, computation, pixmap, etc., is a UDE.
User Data Summary Message (UDSM)	A PDSS Data Quality packet. Information contained in the packet includes: the start/stop time of the UDSM report period, the number of unplanned LOS occurrences, the number of BPDUs or packets per DSID received, the number of VCDU sequence counter errors, and the number of packet sequence counter errors per DSID.

Virtual Channel (VC)	A CCSDS construct whereby a physical communications channel is shared among different users, each of whom uses part of the available bandwidth for a virtual channel of CCSDS CADUs incorporating predetermined CCSDS identifiers for each user.
Virtual Channel Identifier (VCID)	A binary identifier located within the VCDU header, which when concatenated with the spacecraft identifier, uniquely identifies a particular spacecraft virtual channel.
Virtual Channel Data Unit (VCDU)	A CCSDS data set of specific structure and fixed length, which includes CCSDS specified headers and into which user data is packaged for transmission over the space-to-ground link.
Warning Limits	A color code (red) representing limit violations of a parameter.
Wildcard	Placeholders for other characters in a string. Three wildcards are permitted in most HOSC applications. The “*” represents any combination of characters and the “?” represents any single character. A blank can be used to replace a single “*” to indicate “all”. Database applications use Oracle as their basis; therefore, “%” is used like the “*” and an underscore character “_” is used like the “?”. Blank operates the same way in database applications as in other HOSC applications and represents “all.”
Window Menu	The menu that appears when you press the window menu button, which is located to the left of the application title bar on a window frame. Every window has a system menu that enables you to control the position of the window.
Workspace	The area on a terminal where the windows of a user’s environment appear. The workspace is sometimes referred to as a desktop or root window.
XY Plot	A plot that contains one X-Axis and up to four Y- Axes parameters.